ECHO
Roots & Routes
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Contents

Dr K.L.Narayana
Director
ICFAI Tech, Hyderabad

Message from the Director

Dear Readers,

As we bring out the second anniversary edition of our Alumni Magazine, ECHO, it is a moment of quiet pride and reflection for the entire ICFAI Tech community. What began as an initiative to strengthen alumni engagement has, over two years, grown into a meaningful platform that captures journeys, experiences, and ideas that connect our alumni with the present generation of students.

ICFAI Tech, Faculty of Science & Technology (FST), as a part of the ICFAI Foundation for Higher Education, has continued to see its alumni make valuable contributions across academia, industry, and research. Through ECHO, these alumni have generously shared not only their professional achievements but also the challenges, learnings, and decisions that shaped their paths. Such reflections add depth to this edition and provide students with realistic perspectives on life beyond the classroom.

The second year of ECHO has seen sustained participation and thoughtful contributions from our alumni, covering diverse themes ranging from emerging technologies and industry practices to career development and personal growth. These articles serve as both a source of inspiration and a guide for students as they prepare to navigate an increasingly competitive and dynamic professional environment.

On this occasion, I would like to acknowledge and appreciate the consistent efforts of the faculty and students of the Alumni Relations Cell. Their dedication over the past two years has ensured that ECHO remains relevant, engaging, and rooted in the values of our institution. The success of the magazine is a reflection of their commitment and collaborative spirit.

As we mark this second anniversary, I am confident that ECHO will continue to evolve in the years ahead, further strengthening the bond between ICFAI Tech and its alumni, and serving as a source of connection, learning, and inspiration for our academic community.

EDITORIAL

Two Years of Journey

Dr Digvijay Vishwanathan Nair
Faculty, Incharge Alumni Relations Cell
ICFAI Tech Hyderabad

It is a moment of immense joy and gratitude for the alumni community as we mark the successful completion of two years of the alumni magazine ECHO – Routes & Roots. Over these two years, alumni have generously contributed thoughtful and deeply reflective articles that offer a close look into their individual journeys, the challenges they encountered, and the opportunities they embraced. Each narrative reflects their resolve and resilience in overcoming difficult phases and steadily moving closer to cherished goals.

Beyond personal achievements, every edition of the magazine has carried stories that inspire and motivate students to discover their true potential and nurture their talents, enabling them to progress with confidence toward success. The professional world today is characterized by intense competition, high expectations, and demanding work environments. One of the core roles of this magazine is to prepare students for these realities by highlighting the importance of discipline, hard work, and teamwork. In modern industries, cross-functional collaboration is indispensable, and the value of effective communication, clarity of thought, and strong interpersonal skills cannot be overstated. The stories featured in ECHO consistently reinforce these qualities and aim to cultivate the traits required for students to face competition and succeed in their professional lives.

The magazine has also served as a platform to introduce students to emerging industry practices and dominant technologies across diverse fields, including manufacturing, automobiles, IT development and services, and AI and robotics. This close and practical exposure to contemporary technologies plays a significant role in preparing students for their transition into the professional world. All of this has been made possible through the enthusiastic participation of our esteemed alumni, who have chosen to share their experiences candidly—highlighting triumphs achieved amidst difficulties and learning gained through failures. Each article narrates a personal journey of growth, reflection, and aspiration. Our gratitude to the alumni for their unwavering support and encouragement cannot be expressed in words.

In this second anniversary edition, we begin with a profound and engaging journey of distinguished alumnus Mr. Rohit Sindhu. His pursuit of excellence and leadership led him to advanced academic achievements, including a master's degree from IIT Hyderabad. Today, he stands as a critical asset to his organization, leading solution architecture for complex data management and integration. His article sheds light on state-of-the-art cloud platforms at Microsoft Azure that enable data-driven decision-making and enhance efficiency across industries. The AI-led transformation within the Azure cloud ecosystem, particularly through the integration of agentic AI

workflows and architectures, carries far-reaching implications for industry and data management.

In another insightful contribution, esteemed alumnus Mr. Alok Kumar shares his perspective on the packaging industry and water-management systems. Beginning his professional journey in tool design and development, particularly within the rigid packaging sector, he gradually expanded his focus toward enhancing complete systems for improved performance, durability, and environmental sustainability. He identifies significant potential in smart engineering solutions to transform the packaging industry through improved quality, efficiency, and sustainability. His journey serves as an inspiration for students to engage deeply with their work and pursue their professions with passion and purpose.

Another inspiring and highly relevant article by Mr. Phaneesh Panagala emphasizes the importance of thorough preparation and strategic planning to succeed in corporate interview processes. His story motivates students to dream big and approach their goals with confidence. Through perseverance and dedication, Mr. Panagala secured a top position in the M.S. program at the University of Wisconsin–Madison and was awarded a gold medal.

This is followed by an equally thought-provoking article by Mr. Amit Kumar, who highlights the growing need to be a resourceful engineer in today's rapidly evolving, AI-driven technological landscape. With AI reshaping industries at an unprecedented pace, adaptability and resourcefulness have become essential for engineers to remain relevant, competitive, and effective.

We conclude this edition with Ms. Purnima's article on maintaining balance between professional responsibilities and personal life in today's fast-paced and stressful environment. She underscores the importance of developing both strong technical capabilities and soft skills, while striving to bridge existing skill gaps. Her insights offer valuable guidance to young professionals during the early stages of their careers.

We sincerely thank all five alumni contributors for enriching this edition of ECHO with their valuable experiences and insights. With hope and confidence, we look forward to organizing more programs in collaboration with our alumni, strengthening their role in mentoring students and contributing meaningfully to the shaping of their professional and personal journeys.

ICFAI Tech provides quality education and training in the fields of science and technology

Programs offered @ ICFAI Tech

- B.Tech
- M.Tech
- B.Sc.
- BCA
- Ph.D (Full-time & Part-time) in Sciences

Body of Knowledge

ICFAI Tech integrates into its learning system an innovative and emerging body of knowledge. The following are its highlights:

- Cutting-edge course curriculum capturing the contemporary and effective pedagogy, with emphasis on both fundamentals and applications.
- Encouraging students to not only articulate science and technology needs but also provide appropriate solutions.
- Developing appreciation for synthesized multidisciplinary learning by way of internships, measurement techniques, workshop practices and other group learning assignments.

Objectives

- To acquire a reputation as a highly purposive, innovative institution setting the pace for workable reforms in professional education, suitable and most relevant for the Indian cultural milieu.
- To provide high-quality, cutting-edge and career-oriented education programs in science and technology, to student population across the country.
- To provide highly motivated and successful science and technology graduates to meet the current and projected needs of the knowledge-workforce.


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Alumni Reflections

From Data Chaos to AI-Driven Clarity: An Architect's Deep Dive into Modern Azure Cloud transformation

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Every journey begins with a spark- a dream that refuses to fade. For me, that spark was the ambition to become an engineer. The summer of Aug' 02 was more than just a date on the calendar; it was the moment my life took a bold new direction as I arrived in Hyderabad, heart pounding with excitement and a touch of nervousness. Imagine stepping into a sprawling new campus, surrounded by a sea of unfamiliar faces. I was part of the very first ICFAI Tech batch, a pioneer among students from every corner of the country.

Living away from family was both exhilarating and daunting. Suddenly, every decision was mine to make. I learned to manage my time, my studies, and most importantly, myself. This experience transformed me from a reserved introvert into someone confident and engaged. Facing setbacks and doubts taught me resilience, and with the support of dedicated professors, I overcame obstacles. Demanding lectures, exams, and the challenge of coding pushed me to work hard, ultimately turning uncertainty into accomplishment.

From the first uncertain steps in Hyderabad to the triumphs and trials of life that eventually brought me to London UK, my journey to becoming an engineer was more than an academic pursuit- it was a story of personal transformation. I learned that dreams demand courage, setbacks build character, and every new beginning is a chance to redefine what's possible.

After earning my engineering degree, I pursued MBA followed by M.Tech in Computer Science from IIT Hyderabad. My professional journey has taken me through HCLTech, TechMahindra, GSK, and 3iInfotech, where I worked across diverse technologies and partnered with clients around the globe. These experiences have reinforced my dedication to

continuous learning and adaptability, especially in the fast-evolving fields of Artificial Intelligence, Cloud Computing, Data Science, and Machine Learning.

Introduction: Navigating the Modern Data Deluge

In the contemporary digital landscape, organizations are awash in a relentless torrent of data. This data flows in from a dizzying array of sources: Business applications that track every transaction and customer interaction, digital touchpoints that record every click and swipe, machine logs that chronicle the heartbeat of IT infrastructure and Internet of Things (IoT) devices embedded in manufacturing lines and smart cities. The sheer volume and velocity of this data are both a blessing and a curse. While the potential for insight and innovation is immense, the reality for many enterprises is far less rosy. Instead of a wellspring of value, data often becomes a chaotic morass—fragmented, poorly governed, and locked away in legacy systems that stifle agility and innovation.

As an Enterprise Solution Architect, I have had the privilege and the challenge of guiding organizations through this labyrinth. My journey has been one of transformations: helping enterprises move from data chaos to a state of AI-driven clarity, where data is not just managed, but harnessed as a strategic asset. Leveraging the robust capabilities of Microsoft Azure's Data & AI ecosystem, I have witnessed firsthand how organizations can modernize their data platforms, infuse intelligence into every business process, and unlock tangible, measurable business impact.

This writeup is both a chronicle and a guide- a deep dive into the patterns, use cases I have implemented, and lessons learned on the path to true data-driven transformation.

1. Laying the Foundation: Architecting Modern Data Platforms on Azure

The Challenge: Fragmentation, Quality, and Trust

Every journey of transformation begins with a reckoning with the realities of the current state. For most enterprises, the data landscape is defined by three interlocking challenges:

- **Data Fragmentation:** Over years, sometimes decades, organizations accumulate a patchwork of systems. Legacy databases coexist uneasily with cloud-based applications. Data is scattered across business units, geographies, and platforms, creating isolated islands that are difficult to integrate. The result is a fractured view of the business, where decision-makers struggle to see the whole picture.
- **Poor Data Quality:** Data is only as valuable as it is trustworthy. Yet, in many organizations, data is riddled with inconsistencies, gaps, and errors. Incomplete records, duplicate entries, and outdated information erode confidence in analytics and reporting. When business leaders cannot trust the numbers, they hesitate to act.
- **Manual, Slow Reporting:** Traditional reporting processes are often labour-intensive and slow. Analysts spend countless hours wrangling data, reconciling discrepancies, and preparing static reports that are outdated almost as soon as they are published. This lag between data collection and actionable insight can mean missed opportunities and delayed responses to market changes.

Azure's Data Platform: The Building Blocks

Microsoft Azure offers a comprehensive suite of services designed to address these foundational challenges. Each component plays a distinct role in the modern data platform:

- **Azure Synapse Analytics:** This is the beating heart of unified analytics on Azure. Synapse brings together big data and data warehousing, enabling organizations to analyse massive datasets at scale. With its ability to integrate structured and unstructured data, Synapse empowers analysts and data scientists to derive insights that were previously out of reach.
- **Azure Databricks:** Built on Apache Spark, Databricks is the engine for advanced data engineering and collaborative analytics. It supports both batch and real-time processing, making it ideal for scenarios where timely insights are critical. Databricks' collaborative workspace fosters innovation, allowing teams to experiment, iterate, and deploy solutions rapidly.
- **Azure Data Lake Storage:** At the foundation of any modern data platform is storage that is both scalable and secure. Azure Data Lake Storage provides high-throughput, cost-effective storage for raw and curated data. It is the backbone of modern data lakes, supporting everything from simple file storage to complex data pipelines.
- **Cosmos DB:** For applications that demand low-latency, globally distributed data, Cosmos DB is the answer. It enables real-time operational data for mission-critical applications, ensuring that data is always available, no matter where in the world it is needed.

Architectural Pattern: The Medallion Architecture

To bring order to chaos, a robust architectural pattern is essential. The medallion architecture has emerged

as a best practice for organizing data pipelines. This approach structures data into three distinct layers:

- **Bronze Layer:** The entry point for raw data ingestion. Here, data is collected from a variety of sources- often in its original, unprocessed form. The focus is on capturing everything, preserving fidelity for future processing.
- **Silver Layer:** In this layer, data is cleansed, validated, and enriched. Errors are corrected, duplicates are removed, and business rules are applied. The result is a set of high-quality, reliable datasets that are ready for further analysis.
- **Gold Layer:** The final layer is where data is transformed into analytics-ready assets. Here, data is aggregated, modelled, and optimized for reporting and advanced analytics. This is the layer that powers dashboards, machine learning models, and business intelligence tools.

By adopting the medallion architecture, organizations can streamline data ingestion, cleansing, and enrichment. This modular design ensures data quality and lineage at every step, accelerates downstream analytics and AI, reduces technical debt, and improves governance.

Real-World Impact

The benefits of this approach are not theoretical- they are borne out in real-world results:

- **Reporting Latency:** For a global retailer, migrating siloed data to Azure Data Lake and Synapse reduced reporting latency from days to mere minutes. Decision-makers gained access to timely insights, enabling faster, more informed actions.
- **Inventory Optimization:** Advanced analytics delivered ~$2.9M in inventory savings per product group per month, along with a 26% reduction in forecast error. These improvements translated directly into bottom-line impact.
- **Operational Efficiency:** By streamlining data transformation and cloud migration, one organization realized a 40% reduction in operational costs and $8.1M in cost avoidance. The shift to a modern data platform paid dividends in both efficiency and agility.

2. Infusing Intelligence: Bringing AI to Life on Azure

The Power of Azure AI

Once the foundation is in place, the next step is to infuse intelligence into the data platform. Azure's AI ecosystem is designed to move organizations beyond descriptive analytics- what happened- to predictive and prescriptive intelligence- what will happen, and what should be done about it.

- **Azure OpenAI Service:** This service brings the power of large language models to the enterprise. From summarization and content generation to conversational AI, Azure OpenAI enables organizations to automate complex tasks and deliver new experiences to customers and employees alike.
- **Azure Cognitive Services:** With APIs for vision, speech, and language, Cognitive Services make it easy to prototype and integrate AI capabilities. Whether it's extracting insights from images, transcribing audio, or translating text, these services accelerate innovation.
- **Azure Machine Learning:** For organizations that need custom models, Azure Machine Learning provides a robust platform for training, deploying, and managing machine learning solutions. Its seamless integration with Synapse and Databricks ensures that AI is not an afterthought, but an integral part of the data pipeline.

Technical Pattern: Embedding AI in Data Pipelines

Modern data architecture does not treat AI as a bolt-on. Instead, AI is embedded directly into data pipelines. For example, Synapse pipelines can trigger Azure ML endpoints for real-time scoring, while Databricks notebooks handle preprocessing before OpenAI model inference. This tight integration enables real-time decision-making and automation across business processes.

Measurable Achievements

The impact of AI-infused data platforms is profound:

- **Summarization and Automation:** In a financial services transformation, automation reduced summarization effort by 80% and manual labour for ticket resolution by 70%. Analysts were freed from repetitive tasks, allowing them to focus on higher-value work.
- **Cost Savings:** Automation and efficiency gains projected annual savings of $3.2 million, demonstrating the tangible ROI of AI investments.
- **Healthcare Transformation:** By transforming clinical libraries into a GenAI-powered advisor, efficiency improved for over 10,000 clinicians, with estimated annual savings exceeding $100M. The result was not just cost reduction, but improved patient care and outcomes.

3. The Rise of Agentic Workloads: Modular AI for Enterprise

What are Agentic Workloads?

The next frontier in enterprise automation is the rise of agentic workloads- modular, reusable AI agents that are embedded across business processes. These agents are not monolithic applications, but flexible, autonomous entities that can handle a wide range of tasks: IT support, automated approvals, system health monitoring, and more. The shift toward agentic architecture marks a new era, where AI agents act autonomously, collaborate with each other, and adapt to changing business needs.

Azure Tools for Agentic Architectures

- **Azure AI Foundry:** This orchestration platform enables the deployment and management of multi-agent systems for complex workflows. It supports rapid experimentation and scaling, allowing organizations to iterate quickly and deploy solutions at scale.
- **GitHub Copilot for Azure:** By providing AI-powered code suggestions and DevOps automation, Copilot accelerates development and reduces the burden on engineering teams.
- **Logic Apps:** These tools connect AI agents with enterprise systems, enabling seamless automation of business processes.

4. Lessons Learned on the Azure Data & AI Journey

- **Data Quality is Non-Negotiable:** Invest early in governance and lineage using tools like Azure Purview and Data Factory. High-quality data is the foundation for trustworthy analytics and AI. Without it, even the most sophisticated models will fail to deliver value.
- **Security & Compliance:** Enterprise-grade deployments require robust security measures. Defender for Cloud, Role-Based Access Control (RBAC), and Private Endpoints are essential for protecting sensitive data and ensuring compliance with regulatory requirements.
- **Automate Everything:** Adopt CI/CD, Infrastructure as Code, and automated retraining loops to streamline operations and reduce manual effort. Automation is not just a convenience—it is a necessity for scaling AI and data solutions.

5. Looking Ahead: The Future of Azure Data & AI

- **Responsible AI:** Embedding fairness, transparency, and accountability into every solution is no longer optional. Responsible AI practices ensure that models are ethical, explainable, and aligned with organizational values. As AI becomes more pervasive, the importance of responsible governance will only grow.
- **Edge AI:** The next frontier is bringing intelligence closer to where data is generated. Azure IoT and edge services enable real-time analytics and decision-making at the edge, unlocking new use cases in manufacturing, healthcare, and logistics.
- **Industry-Specific Solutions:** Tailoring architectures for verticals like healthcare, finance, and retail maximizes impact. Azure's flexible, modular approach allows organizations to build solutions that address unique industry challenges.

6. Best Practices for Azure Data & AI Transformation

- **Start with a Clear Strategy:** Define business objectives and align data architecture to support them.
- **Invest in Data Governance:** Use Azure Purview, Data Factory, and Unity Catalog for robust governance and lineage.
- **Adopt Modular Architectures:** Implement medallion architecture and agentic patterns for scalability and flexibility.
- **Embed AI Thoughtfully:** Integrate AI into data pipelines and business processes, focusing on measurable outcomes.
- **Prioritize Security and Compliance:** Leverage Azure's security features to protect data and ensure regulatory compliance.
- **Foster a Culture of Learning:** Encourage continuous upskilling and knowledge sharing across teams.

Conclusion: The Ongoing Journey

Azure Cloud Data & AI has been the catalyst for innovation in my projects—enabling scalable, secure, and intelligent solutions that deliver real business impact. From modern data platforms to agentic AI, the journey is ongoing, and the opportunities are limitless. By embracing best practices, leveraging Azure's robust ecosystem, and fostering a culture of continuous learning, organizations can turn data chaos into AI-driven clarity and unlock the full potential of their digital transformation.

The Future of rigid packaging industries & Water management system: What to expect next

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Product Development, Wavin B.V, An Orbia Group
ICFAI Tech Hyderabad- 2007-11,
Mechanical Engineering

Hi, I'm a Mechanical Engineer with a strong foundation in Tool Design and Development, particularly in the rigid packaging industry. I began my career during a period of rapid growth in this sector, gaining deep exposure to injection molding technologies, precision tooling, and high-performance design concepts.

Early in my journey, I worked hands-on with mold development, component design, material analysis, and manufacturing optimization — experiences that shaped my understanding of how smart engineering drives quality, efficiency, and sustainability. Over time, my passion evolved from just designing tools to enhancing full systems for performance, durability, and environmental responsibility.

Today, I see tremendous growth opportunities not only in the rigid packaging industry, but also in the future of smart water management systems for buildings and infrastructure. My interest in future-focused innovations has led me to explore the intersection of mechanical systems, IoT, and sustainable design — especially in areas where engineering can contribute to climate resilience and resource efficiency.

I believe mechanical engineering is not just about making things work — it's about making them better, smarter, and more sustainable. With increasing global demand for sustainable solutions, I see huge potential for engineers to lead in areas such as:

- Tool Design & Development (CAD, DFM, Mold Flow Analysis)
- FEM & Mechanical Simulation
- Rendering & Visualization
- Injection Molding Optimization
- Water Efficiency in Buildings
- Green Technology & Smart Infrastructure Systems

I'm excited to keep growing at the intersection of design, innovation, and sustainability, and to contribute meaningfully to the future of engineering — in both industrial manufacturing and infrastructure development.

Your background in Tool Design & Development and Rigid Packaging offers many practical insights that can be extremely valuable for mechanical engineering students. These areas provide a real-world application of core engineering principles, while also teaching students about design thinking, manufacturing processes, and sustainability — all of which are essential for their future careers.

Here's a breakdown of how your experience can be turned into concrete suggestions and learning tips for students:

1. Tool Design is Real-World Design Thinking

- How to design for manufacturability (DFM)
- Importance of precision, tolerance, and fit
- Using CAD and simulation tools to solve real problems.

Scope: - Learn tools like SolidWorks, AutoCAD, CATIA, or Creo and focus on designing with constraints. In the real world, everything has a cost, material limitation, and manufacturing challenge — tool design teaches you to engineer within boundaries.

2. Rigid Packaging Is an Engineering Challenge in Itself.

- Material selection (plastics, polymers, composites)
- Structural strength vs. cost trade-offs
- High-volume production and quality control

Scope:- Explore material science courses and understand how material behavior changes under different loading or thermal conditions. Get familiar with plastics processing, especially injection molding — it's one of the most used manufacturing techniques in the world.

3. Manufacturing Optimization = Engineering for Efficiency

- Process improvement (Lean, Six Sigma principles)
- Cycle time reduction and productivity
- Energy use and sustainability in production

Scope:- Take on projects where you analyze and improve an existing process. Learn about simulation tools like Moldflow or ANSYS to see how minor design tweaks can improve performance.

4. From Part Design to Systems Thinking

- Understanding the entire life cycle of a product
- Thinking beyond the part — to how it fits in a system
- Designing not just for function, but for maintenance, durability, and sustainability

Scope:- Develop your thinking from just solving isolated technical problems to system-wide optimization. Ask questions like: How will this part be assembled? What happens at end-of-life? Can this be reused or recycled?

5. Packaging = Everyday Engineering Impact

- Engineering that interacts with millions daily
- Small design improvements can lead to huge environmental impact
- Design is not just technical — it's also about user experience, safety, and cost

Scope:- Study case studies in consumer product design, packaging optimization, and design for the environment (DfE). Your small idea could reduce plastic use by tons or improve recyclability across the supply chain.

Bonus Suggestion: Use Your College Projects Wisely

- Pick topics related to tooling, materials, or manufacturing processes for final-year projects or research.
- Consider internships in packaging companies, mold manufacturers, or sustainable product design firms.
- Join student competitions or hackathons focused on sustainability, efficiency, or design innovation.

Closing Advice to Students:

"Start small, but think big."

Your first exposure to a simple mold or part might seem minor, but understanding how it's made, why it's designed that way, and how it can be improved — that's where real engineering starts.

Finding Your Path: Jobs, Interviews, College, and Everything in Between

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Hey Friends — You've Got This!

It's been a rough time, hasn't it? I know! I hope your day is going well and that you're able to sleep with a peaceful heart. If not, don't worry — time never stays the same; things will change soon! This article might not guarantee your first offer, but it will definitely give you a better perspective on how to apply for jobs and handle interviews. So, without dragging it out any further, let me share my thoughts and experiences on jobs, interviews, college, and everything in between.

Firstly, "The Art of Storytelling is very important". In interviews, apart from the skills you have, the way you explain them, the way you capture the interviewer's attention, and the way you engage them throughout the conversation can significantly increase your chances of success. Tell interesting, relevant stories in response to their questions. Use your facial expressions to convey emotion and bring your words to life. Soft skills — such as communication, body language, gestures, and storytelling style — play a huge role in making a lasting impression. So please practice it. Also, try to play the role of an interviewer and anticipate the questions they might ask. You can even use AI tools to simulate interviews and generate follow-up questions. Over time, you'll learn how to make the interviewer fall in your trap of asking the questions that you already know. Tadaaa! Now the ball is your court. It's your project, and no one knows it better than you. Finally, make sure you understand every word that comes out of your mouth. Preparing at that level takes time, but trust me — it's absolutely worth it.

Ironically, interviewers often expect you to share stories that most likely never even happened in your life. Lol, right? For example, once an interviewer

asked me, "Tell me about a time when you were driving toward a goal and realized halfway through that it might not be the best goal." Honestly, I had never been in that situation. So, I had to think on my feet and make up a story right there (thinking out of the box!). Sometimes, what I do is prepare a few base stories that can be adapted to fit whatever questions they ask (lol again!). I just make small adjustments on the spot to align them with the question. When it comes to skill-based rounds like coding, of course, you need to prepare specifically for that — there's no shortcut I can think of. Practicing technical skills using class notes and online platforms like LeetCode or W3Schools made those tests much easier for me. In the end, it's a combination of unique behavioral stories and your technical skill set that can really influence your chances of success in an interview.

A tailored resume opens more doors

Always align your resume with the job description for every role you apply to. Yes — for every single job (or atleast job type). Avoid dumping all your skills into one resume; it can make your profile look bland. For instance, if I'm a recruiter for a Machine Learning Engineer role emphasizing Python and Statistics, I'd prefer a resume that lists: Python, R, Excel, and Statistics; rather than a person's resume which mentions an endless list like Java, Python, Statistics, R, HTML, Digital Marketing, Excel, CSS, C++, and Telecommunications. There's nothing wrong in mentioning other skills that you think will be relevant. But, Including too many irrelevant skills can overshadow the key skills required for the job. So, keep it relevant, clean, and customized.

Learn continuously — the brave ones never stop evolving

Set aside dedicated time to practice and refine your skills. In today's fast-paced world, new technologies emerge constantly, and staying relevant means staying curious. When applying for jobs, beyond your core skills, if you notice certain tools or competencies you're unfamiliar with appearing repeatedly across multiple job postings, take it as a clear signal — you're missing something essential in your field of interest. Dedicate time to learning that skill.

Projects can be built — and so can your confidence

Don't worry if you lack a relevant project to showcase. You can always create one on your own to learn and demonstrate the required skill. I'm telling this because many people just skip applying for some jobs when they see some new skill in the job description. Seek guidance from your professors — they're some of your best resources. There are also countless videos online, and AI can help you grasp new concepts efficiently. What matters most is your initiative to learn and apply.

College is your training ground for life.

Finally, Make most out of your college. It's not just about grades, but how well you understand people, gain experiences, and maintain balance. Academics should remain your priority, but don't limit yourself to books. You should engage in sports, participate in events, volunteer, and organize activities to learn what you don't get in reading books. These experiences teach you lessons no classroom can offer. Remember one thing: "Graduating isn't just about earning good marks, it's about how well you've handled and balanced academics, people, professors, sports, events, etc."

Lovingly, Yours

THE ART OF BECOMING RESOURCEFUL ENGINEER

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Designation: Product Technical Lead/ Technical Manager
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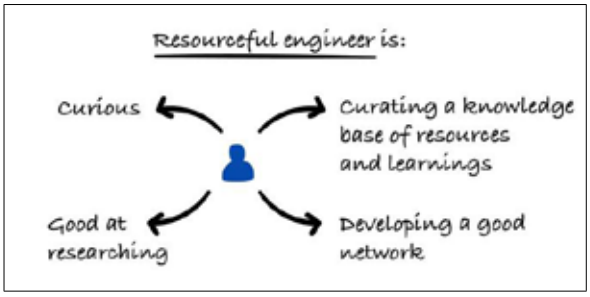
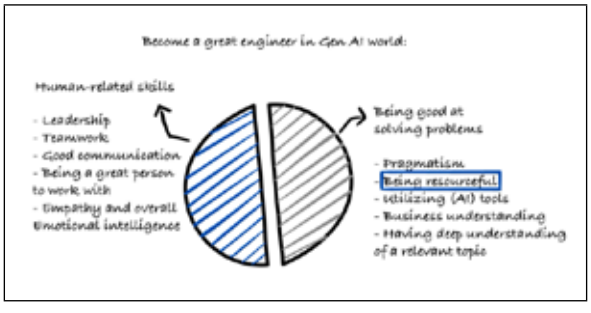
In today's world of fast moving AI dominated market, we all know we are moving from traditional approach to approach widely supported by wide number of AI tools. I had my chance to discuss on the on-going impact of AI on industries with few leaders from top Silicon Valley Company. One thing that I can say going forward its very much important that we should know how we can keep our self as resourceful engineer that will matter the most. Let me summarize my view point what it meant to be resourceful engineer.



- Best Engineers Inspire Trust
- Being Resourceful is truly a Timeless Skill
- Resourcefulness Starts With Curiosity

The two important areas for engineers to do well in the Gen AI world are:

- Human-related skills and
- Being good at solving problems.



Starts With Curiosity

Curious people will always find new things to learn or new concepts to explore. And especially in our industry →we should all be learning new things all the time, no matter the title, seniority, or years of experience.

So, this is very important to understand. Curiosity is the foundation of resourcefulness. A curious engineer:

Explores how systems really work beneath the surface.

Learns from failures and mistakes rather than avoiding them.

Always explores new tools, workflows, and perspectives.

Build a repository base of Resources and Learning's

Being curious and always learning is one thing, but if you want to be resourceful, you need a way to find what you are learning or what you have already learned very quickly.

Being organized is very important here. Create a system where you store your past learning's and findings.

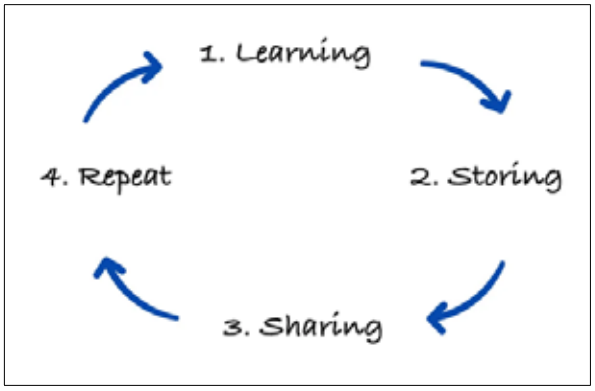
I think about resourcefulness and storing resources like this:

My goal is that for any problem I face, I know exactly which resource would help me solve that particular problem.

Learning, Storing, Sharing

Now, this is a very important thing to understand, and I highly recommend that you do this. This will help you immensely to grow and progress.

Develop a habit of learning →storing →sharing.



Learning

Get a hold of resources where you consistently learn new things relevant to your focus and goals, find out the latest trends, and what's happening in the industry.

Storing

Once you have the resources that you continuously check, you should consistently store the relevant articles/newsletters/templates in your system, so you can refer to them anytime you need to.

Sharing

Share the resources with others, especially with your colleague's →it shows that you are constantly learning new things and also helping others to level up as well.

A great thing that you can also do is to write about the topics that you have learned about in a blog or newsletter. That way, you also start positioning yourself as a person who is good at that particular thing that you write about.

Good at Researching

This may seem obvious, but let me tell you how big a difference it is when you are intentional when researching.

Start with a clear question

The important thing to start with is to be very clear about what you actually need to know. And try to dissect a problem into smaller, more manageable pieces. Start with these questions:

What do I need to know?

What is the expected outcome?

What constraints exist?

Example:

"Why is my app slow?" →It's too vague

"Which app endpoints are taking longer to respond?"

More detailed and clearer questions can give you much better results when researching.

Use multiple resources

After, you want to use as many resources as you can. Search in:

- Official documentation
- Open-source repos
- Engineering blogs and newsletters
- Research papers
- StackOverflow, ChatGPT, Perplexity or other
- Internal docs & people

Check credibility of sources

- Is the information:
- From official docs?
- Written by subject experts?
- Widely referenced?
- Up-to-date?

Keep notes

This is crucial, so you don't move in circles and research what you already know.

Document:

- What you found
- What worked
- What didn't
- Links
- Code snippets
- This compounds knowledge over time.

Recognize patterns

Many engineering problems are similar, and it's really important that you understand the actual patterns. As you solve more and more issues, you'll recognize how bugs repeat, systems fail, and performance bottlenecks.

It becomes much easier over time. The important thing is that you are aware of these patterns. It speeds up your research a LOT.

Timebox if needed, so you don't perfect

Analysis paralysis is unfortunately quite a common thing when researching. We end up researching for long hours trying to find the "perfect" solution, while we already had the right solution ready to use.

So, if you find yourself trying to "perfect", it's best if you timebox it, 30 minutes, 1 hour, 2 hours, 4 hours, or more →depending on what your goals are and what you are researching.

Networking to grow further

Your network really is your asset, and you not only get more opportunities because of your network, but you can also exchange knowledge with the people you know.

That's especially crucial in Software Development, where experts in particular technologies can be hugely helpful →when you're assessing the buy vs build, when you are assessing using a certain pattern or technology, or maybe you have a very specific problem in a certain domain.

You especially want to ask questions to the people who have been through that specific problem that you are facing right now.

And also, it's important to note that the more you grow in your career, the fewer peers you have inside your company. And that means fewer people understand the struggles and challenges that you go through.

Last words

Let's end this article with the following:

Becoming a resourceful engineer isn't about memorizing everything →it's about developing the confidence and skill to figure things out.

The best engineers aren't the ones who have all the answers on the spot, they're the ones who know how to find them, validate them, and apply them in the right circumstances.

Stay curious, stay systematic, and keep a record of what you learn. Every problem you face and overcome, makes you better.

You got this!

College to Corporate: The Journey of Becoming a Solution Architect

Purnima Pandey
Senior Solution Architect – LTIMindtree Ltd
ICFAI Tech Hyderabad (2003–2007)

Transitioning from college to the corporate world is one of the most significant milestones in a student's life. While academic programs provide theoretical knowledge, the corporate environment demands practical application, adaptability, and a mix of technical and soft skills. This document explores how to navigate this transition successfully and thrive in today's data-driven economy.

Common Challenges in the First Job

Freshers often encounter hurdles such as:

- Data Quality Issues: Incomplete or inconsistent data can lead to flawed analysis.
- Tool Overload: Learning multiple tools quickly can feel overwhelming.
- Stakeholder Communication: Translating technical findings into actionable business insights.
- Pressure for Accuracy: Mistakes in analysis can impact critical decisions.

Tip: Start small—focus on mastering one tool at a time and seek mentorship for guidance.

Bridging the Skills Gap

One of the biggest challenges fresh graduates face is the skills gap between academic learning and industry requirements.

Technical Skills:

- SQL – Essential for querying databases
- Excel – Advanced functions, pivot tables, and Power Query
- Programming – Python or R for data manipulation and analysis
- Visualization Tools – Tableau, Power BI
- Statistics & Probability – Hypothesis testing, regression, data modeling

Soft Skills:

- **Communication** – Explaining complex data insights in simple terms
- **Problem-Solving** – Translating business problems into analytical solutions
- **Adaptability** – Embracing new tools and technologies
- **Teamwork** – Collaborating effectively across departments

Career Tips for Freshers

- **Start with Basics** – Excel and SQL are non-negotiable
- **Practice Real** - World Scenarios – Use open datasets
- **Focus on Storytelling** – Visualization should tell a compelling story
- **Seek Feedback** – Regular reviews help accelerate improvement

Professional Journey

"There is no limit to what we, as women, can accomplish." – Michelle Obama

I joined LTIMindtree as a campus recruit, and it has been over 18 years of continuous learning and growth. Every challenge pushed me out of my comfort zone and helped me discover new strengths. The journey from Programmer-Analyst to Principal Architect has been deeply fulfilling, and the journey continues.

Work–Life Balance

Maintaining work-life balance is a challenge we all face. I realized that it begins with prioritizing oneself. I dedicate one hour every day to activities I enjoy—workouts, reading, and dance classes. Regular self-reflection and personal time are essential for sustained professional success.

IcfaiTech
Faculty of Science & Technology (FST)

CAMPUS CHRONICLES

AI HORIZONS 2025: EXPLORING CAREERS AND INNOVATIONS

The Alumni Relations Cell (ARC) of ICFAI Tech, IFHE Hyderabad, organized a one-day technical workshop titled "AI Horizons 2025: Exploring Careers and Innovations" on October 17, 2025, at the ICFAI Tech Auditorium. This event marked another significant milestone in ARC's ongoing mission to foster strong alumni-student engagement and promote the exchange of knowledge between academia and industry leaders.

Building upon this foundation, AI Horizons 2025 was conceptualized as an interdisciplinary event aimed at providing students with insights into the rapidly evolving landscape of Artificial Intelligence (AI), its impact on modern careers, and the technological innovations shaping the global job market. The workshop featured a distinguished panel of ICFAI Tech alumni who have established themselves in prominent organizations such as JP Morgan Chase, Daimler India Commercial Vehicles (DICV), Salesforce Inc., and LeoForce India.

Apero: Coffee with Alumni (Episode-4)

The Alumni Relations Cell (ARC) organized an interactive interview session with Mr. Rahul Kumar, an alumnus of ICFAI Tech (Batch 2004–2008), currently serving as Early Careers Coach at S&P Global, Hyderabad. The purpose of the session was to provide students with insights into career development, corporate culture, technical preparedness, and personal growth strategies based on real-world experiences.

We had the opportunity to directly engage with the distinguished alumnus, Mr Rahul Kumar, while presenting the lab facilities, including RIMS Lab resources and 3D printed models. The discussion covered a mix of career guidance, industry expectations, technical readiness, and personal development topics.

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Dr Shakeel Hashmi

Dr K Vivekananda

Dr H Sudheer

Dr Divya

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