

# PRAMIKA GARG

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## EDUCATION

### Vellore Institute of Technology

Sep 2020 – Jul 2024

Bachelor of Technology in Computer Science & Engineering, GPA: 8.8/10 · 3.91/4.0 🏆

Vellore, India

- **Merit Scholarship:** Ranked Top 10 / 2100 for 2 consecutive years. 🏆
- **Executive Board:** ACM / ACM-W VIT - Finance Head / Outreach Head.
- **IEEE VIT:** Senior Technical Committee Member · **MFC VIT:** Technical Committee Member.

## EXPERIENCE

### Qualcomm

Aug 2025 – Present

Software Engineer I

Hyderabad, India

- Engineered a **GenAI diagram-generation platform (Claude LLM + Docker + Kubernetes)** deployed to an engineering base of **10K+ users**; streamlined flows to drive a **30% reduction** in technical documentation time & coordinated rollout with Engineering, and QA.
- **Orion Award recipient** for leading **ETL pipeline migration** and co-developing an **AI-driven Regression Change Detector**, enhancing CI/CD traceability and boosting platform reliability.
- Owned **full-stack backend development** for multiple services in **Java**, conducting peer code reviews and enforcing **scalable architecture patterns** for the team.

### Qualcomm 🏆

Jul 2024 – July 2025

Associate Software Engineer

Hyderabad, India

- Migrated **ETL pipeline** to distributed **RabbitMQ + MySQL** (metadata only), guiding cross-team adoption; introduced multi-worker processing and back-pressure scheduling, scaling throughput **1 TB to 10 TB/day** and eliminating Jenkins bottlenecks.
- Architected IoT load-simulation system on **AWS EKS + Kafka**, generating traffic for **250K+ devices** across 40+ teams; introduced adaptive partition balancing, cutting message latency by **40%**.
- Built **self-healing infrastructure** with automated reset logic and unified **Splunk/Grafana observability**; auto-recovered **93% of failures**, reducing incident resolution time by 30% and improving IoT device capacity **6× per host**.
- Developed unified OPA-based access control system in **Kubernetes** across **23+ APIs**; reduced misconfigurations by **65%** and streamlined secure onboarding for engineering teams.
- Designed and deployed **FastAPI + SQLAlchemy Proxy SQL gateway** for **5K+ concurrent clients**; implemented **KEDA-based autoscaling**, achieving **99.9% uptime** for parallel test workloads.

### GE Aerospace 🏆

Jan 2024 – Jun 2024

Software Development Engineer Intern

Bengaluru, India

- Engineered a dynamic **Playwright based automation framework** for the Engine Change Tool, covering **40+ complex flows**; implemented logic to validate variable resultant data states, ensuring stability across diverse fleet scenarios.
- Optimized asset transfer workflows by eliminating manual validation loops, resulting in a **~95% reduction** in processing errors and saving **583 man-hours annually** for the support team.
- Collaborated with cross-functional QA teams to document workflows and validation logic, facilitating smooth knowledge transfer and accelerating feature delivery within an **Agile environment**.

### Expedia Group 🏆

May 2023 – Jul 2023

Software Development Intern - Flights

Gurgaon, India

- Built from scratch a configurational **Maestro based framework**, with **30+ toggles**, covering the entire scope of user touch story for **Flights LOB**.
- Developed the complete suite of **UI and Flow based Test Cases** for the most used LOB in Expedia (i.e. Flights) which at a later stage we turned into a **Synthetic test suite** to monitor downtime of app specific APIs.
- Scaled solution across to **4 Business Units**, built comprehensive UI tests, enabling **5X faster test case development**, and enabling auto regression and synthetic testing made easily deployable via **GitHub Actions**.
- Worked on both **iOS And Android** code bases to build **Accessibility Identifiers** to make UI elements much more accessible and easy to implement in UI Test Cases.

### EPFL (Swiss Federal Institute of Technology) 🏆

May 2022 – Jul 2022

Summer Research Scholar - Scalable Computing Systems Lab (SaCS Lab)

Lausanne, Switzerland

- Selected among the **top 2%** of global applicants for a fully funded fellowship to conduct **federated machine learning experiments** focused on distributed deep learning under resource constraints.
- Designed training loops and simulation pipelines to evaluate model performance on **heterogeneous data**; implemented **lightweight pre-processing** to mitigate bandwidth bottlenecks in realistic network environments.
- Optimized aggregation strategies and communication frequency, achieving an **18% improvement in convergence speed** and reducing mean network communication overhead by **23.2%**.

### The D. E. Shaw Group 🏆

Oct 2021 – May 2022

DESIS Ascend Educare Fellow

Remote

- Selected as one of **40 fellows** from a pool of **6,200+ applicants (Top 0.65%)** for an exclusive 6-month mentorship program; received weekly technical guidance from senior DESIS engineers.
- Developed a fully fledged **Recruitment Content Management System (CMS)** in **Node.js**, designed to streamline candidate tracking and automate application workflows.
- Led a team of 4 to architect and build **Fin€fy**, a novel **fintech product** designed to revolutionize financial independence for home-makers; built the **backend infrastructure** and presented the MVP to firm leadership.

RESEARCH PUBLICATIONS

**NOTE:** All publications are *double-blind peer-reviewed*.

IEEE: 4 <sup>th</sup> ICUIS, 2024   iOS, ARKit, VisionOS   Cited by 1	Dec 2024
Inventory Management in Augmented Reality Using Apple ARKit for VisionOS	
IEEE: GCCIT, 2024   Blockchain, NFTs, Smart Contracts	Oct 2024
Leveraging BBTs and NFTs for Ethical Ticketing in Live Events	
IEEE: 7 <sup>th</sup> CSI-TSS, 2023   Python, MNE, Signal Processing   Cited by 6	Nov 2023
Harnessing Creative Methods for EEG Feature Extraction and Modeling in Neurological Disorder Diagnoses	
IEEE: 7 <sup>th</sup> CSI-TSS, 2023   1 <sup>st</sup> Author   Python, OpenCV, Dark Channel Prior   Cited by 1	Nov 2023
Enhancing Visibility: Multiresolution Dark Channel Prior for Dehazing and Fog Removal in Images	
IEEE: 4 <sup>th</sup> ICRTCST, 2021   1 <sup>st</sup> Author   Python, ML Models   Cited by 1	Feb 2022
An Exhaustive Comparative Analytical Study of 15 Machine Learning Models For Automated Cardiovascular Disease...	
Springer: ICICIT, 2021   1 <sup>st</sup> Author   Python, Algorithms, Parallel Computing   Cited by 2	Jan 2022
Randomised analysis of backtracking-based search algorithms in elucidating sudoku puzzles using a dual...	

HONORS & AWARDS

Qualcomm   Orion Award	Aug 2025
Awarded for exceptional impact leading to early promotion.	
EPFL   Summer Research Scholarship	May 2022
Awarded 3,600 CHF funding; Selected Top 2% of global applicants.	
Google   Generation Scholarship (APAC)	Apr 2022
Awarded \$1,000 USD; Selected Top 180 / 20,000+ applicants (Selectivity: 0.9%).	
Harvard University   WECODE Scholarship	Mar 2022
Selected Top 250 / 5,000+ applicants (Selectivity: 5%).	
Vellore Institute of Technology   Merit Scholarship	2020 – 2022
Ranked Top 10 / 2,100+ students for 2 consecutive years.	
The D. E. Shaw Group   DESIS Ascend Educare Scholarship	Oct 2021
Awarded INR 50,000 stipend.	
American Express   AI/ML Hackathon	Oct 2021
Ranked 6 <sup>th</sup> / 1,385 participants (Individual Track).	
SUSE (CNCF)   Cloud Native Scholarship	Jun 2021
Selected Top 325 / 15,000+ applicants (Selectivity: 2%).	

PROJECTS

Digital Portfolio   HTML, CSS, JavaScript	Jun 2025 - Nov 2025
<ul style="list-style-type: none"><li>Designed and developed a <b>responsive portfolio</b> with custom animations, starfield background, and <b>smooth scroll transitions</b>.</li><li>Built with <b>vanilla HTML/CSS/JS</b> without any frameworks, fully accessible with <b>semantic markup</b> and ARIA labels.</li></ul>	
Parsify   Python 3, POSIX, Shell	Jan 2025 - Sep 2025
<ul style="list-style-type: none"><li>A logical parser of of the <b>POSIX standard</b> (IEEE Std 1003.1-2017) subset - Shell Token Recognition rules.</li><li>Implements Section 2.3 of the <b>Shell Command Language</b> chapter, covering the unified <b>POSIX.1 Shell and Utilities</b> interface.</li></ul>	

SKILLS

Languages:	Java, Python, Swift, JavaScript, SQL, $\LaTeX$
Cloud & DevOps:	AWS, GCP, Kubernetes, Docker, EKS, Terraform, CI/CD, Linux, Splunk, Grafana, Git
Backend & Databases:	SpringBoot, FastAPI, Node.js, RabbitMQ, Kafka, MySQL, PostgreSQL
AI/ML:	TensorFlow, OpenCV, Federated ML, LLMs, Jupyter, Tableau, Data Analytics
Mobile & Testing:	iOS SwiftUI, XCode, Maestro, Playwright, Nightwatch.js, UI Automation, Test Automation
Leadership & Soft Skills:	Technical Leadership, Mentorship, Cross-functional Collaboration, Agile/Scrum, Strategic Planning

CERTIFICATIONS

JP Morgan Chase   Software Engineering Virtual Experience	Sep 2021
Postman   Student Expert	Aug 2021
Goldman Sachs   Engineering Virtual Program	Jul 2021
Coursera   Fine Tune BERT for Text Classification with TensorFlow	Jun 2021
Google   Build and Secure Networks in Google Cloud	Nov 2020
Google   Deploy to Kubernetes in Google Cloud	Nov 2020
Google   Insights from Data with BigQuery	Nov 2020
Google   Perform Foundational Data, ML, and AI Tasks	Nov 2020
Google   Integrate with Machine Learning APIs	Nov 2020
Google   Engineer Data in Google Cloud	Oct 2020