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 **97% 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 to architect **Fin€fy**, a novel **fintech product** designed to revolutionize financial independence for homemakers; built the **backend infrastructure** and presented the MVP to firm leadership.

Research Publications

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

IEEE: 4th ICUIS, 2024 | *iOS, ARKit, VisionOS* | **Cited by 1** 🔗   **Dec 2024**
Inventory Management in Augmented Reality Using Apple ARKit for VisionOS   *Gobichettipalayam, India*

IEEE: GCCIT, 2024 | *Blockchain, NFTs, Smart Contracts* 🔗   **Oct 2024**
Leveraging BBTS and NFTs for Ethical Ticketing in Live Events   *Bengaluru, India*

IEEE: 7th CSI-TSS, 2023 | *Python, MNE, Signal Processing* | **Cited by 6** 🔗   **Nov 2023**
Harnessing Creative Methods for EEG Feature Extraction and Modeling   *Bengaluru, India*

IEEE: 7th CSI-TSS, 2023 | **1st Author** | *Python, OpenCV, Dark Channel Prior* | **Cited by 1** 🔗   **Nov 2023**
Enhancing Visibility: Multiresolution Dark Channel Prior for Dehazing   *Bengaluru, India*

IEEE: 4th ICRTCST, 2021 | **1st Author** | *Python, ML Models* | **Cited by 1** 🔗   **Feb 2022**
An Exhaustive Comparative Analytical Study of 15 Machine Learning Models   *Jamshedpur, India*

Springer: ICICIT, 2021 | **1st Author** | *Python, Algorithms, Parallel Computing* | **Cited by 2** 🔗   **Jan 2022**
Randomised Analysis of Backtracking-based Search Algorithms in Sudoku   *Vellore, India*

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.

American Express | **AI/ML Hackathon**   **Oct 2021**
Ranked 6th / 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**
- Designed and developed a **responsive portfolio** with custom animations, starfield background, and **smooth scroll transitions**.
- Built with **vanilla HTML/CSS/JS** without any frameworks, fully accessible with **semantic markup** and ARIA labels.

Parsify | *Python 3, POSIX, Shell* 🔗   **Jan 2025 - Sep 2025**
- A logical parser of of the **POSIX standard** (IEEE Std 1003.1-2017) subset - Shell Token Recognition rules.
- Implements Section 2.3 of the **Shell Command Language** chapter, covering the unified **POSIX.1 Shell and Utilities** interface.

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**