

PRAMIKA GARG

+91 81482 08354 | micepram@gmail.com | Portfolio | /in/micepram | /micepram | Scholar | ORCID

EDUCATION

Vellore Institute of Technology

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

Sep 2020 – Jul 2024

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

Software Engineer I

Aug 2025 – Present

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

Associate Software Engineer

Jul 2024 – July 2025

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 **6x 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

Software Development Engineer Intern

Jan 2024 – Jun 2024

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

Software Development Intern - Flights

May 2023 – Jul 2023

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)

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

May 2022 – Jul 2022

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

DESI S Ascend Educare Fellow

Oct 2021 – May 2022

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

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 th / 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 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, L ^A T _E X
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