ADITI PRABHAKAR PATIL

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EDUCATION:

San Jose State University, San Jose, CA | **Masters in Software Engineering** *Aug 2023 - May 2025*
Coursework: Distributed Systems, Enterprise Software Platforms, Data Mining, IoT, Application Development, Security **GPA: 3.8**

Cummins College of Engineering for Women, India | **B.Tech in Information Technology** *Aug 2017 - May 2021*
Coursework: Data Structures and Algorithms, Computer Networks, ML, AI, NLP, Information Retrieval, Cloud Computing, Big Data and Analytics, Computer Architecture, DBMS, Object Oriented Programming , Design Patterns **GPA: 8.81**

TECHNICAL KNOWLEDGE:

Languages: Python, Kotlin, Bash, Java, C, C++, HTML, Javascript, SQL, TypeScript, Ruby, Lua.
Libraries and Frameworks: Angular, React, Spring Boot, Flask, Cucumber, REST, Node.js, Tailwind CSS, Material-UI, Express.js, JUnit
Data and Data Science: RDBMS, MySQL, NoSQL, MongoDB, Redis, Tableau, Kibana, Grafana.
DevOps: Jenkins, Kubernetes (K8s), Docker, AWS, S3, ElasticSearch, uDeploy, RedHat OpenShift, SSH, ELK, IaaS, SaaS
Technologies: Linux, Git, Computer Vision, OpenCV, Prometheus, IPv4/IPv6, TCP/IP, WebSockets, SOAP, REST, Agile, Raspberry Pi
ML & AI: NLTK, SpaCy, PyTorch, Numpy, NLP, LLM, TensorFlow, Keras, OpenCV, Deep Learning, Numpy, Pandas.
Certifications: CCNA**:** R&S (Introduction to Networks and Routing and Switching Essentials).

EXPERIENCE:

Illumio Inc., Sunnyvale, CA, USA| Cloud Engineering Intern *May 2024 - Dec 2024*
- **Horizontally scaled** Redis Server for Illumio's Core Product, achieving a **30x boost** in calculation efficiency and **4x workload capacity**, while enabling high availability by developing a cross-platform orchestration tool.
- Created **Kubernetes (K8s) deployments with Helm charts, ArgoCD, and Jenkins,** ensuring seamless CI/CD processes; developed dashboards using Azure Data, KQL, and Grafana for actionable insights and monitoring.
- Replaced polling mechanisms with a **distributed, real-time** policy synchronization system using **Java, message queues, and Kafka**, enhancing consistency and efficiency.

Technology Used: *Python, Ruby, Redis, Linux, PostgreSQL, KQL, Kubernetes, ArgoCD, Helm, Microsoft Azure, Kafka, Lua, Java, Grafana.*

Citigroup Inc., Pune, India | Application Developer *July 2021 - Aug 2023*
- Led the **redesign and migration** of the key User Interface (UI) components from PHP to Angular 12, **enhancing performance, user experience**, risk management, and functionality for **ETL** applications within an **Agile framework** following **Test Driven Development**.
- Transitioned from a monolithic swap reporting system to a **microservices-based architecture** using **Java, Kotlin, Spring, and Kubernetes, increasing accuracy by 97%** and integrated cloud storage technologies like Amazon S3 for low-latency delivery of reports.
- Managed container-based deployments via RedHat OpenShift, and **implemented CI/CD pipelines** using Jenkins.
- Built data lineage applications for automated report generation for **cross-functional teams** using **Java Design Patterns** and conducted data analysis with **ElasticSearch and Kibana** to ensure data quality and accuracy. Automated UI testing with Selenium, Cucumber, and Gherkins; conducted performance and unit testing.

Technology Used: *Java, Kotlin, Spring, Angular, Kubernetes, RedHat OpenShift, ElasticSearch, uDeploy, Jenkins, Gherkins, Maven, Gradle.*

Nife Labs Pte Ltd, Singapore | Machine Learning Intern *June 2020 - Apr 2021*
- Designed and implemented machine learning solutions for **edge and cloud robotics**, optimizing deep learning models with a **70% latency reduction** using IoT, AWS, and Computer Vision; mentored peers and **co-authored a research paper** on AI-driven robotic systems.

Technology Used: *Python, OpenVINO, AWS, Raspberry Pi, IoT, Edge/Cloud Computing, Golang, Computer Vision, Robotics, OpenCV.*

Tata Communications Limited, Pune, India | Network Intern *May 2019 - July 2019*
- Assisted in 'Internet Leased Lines (ILL) Migration over MPLS' by **configuring VLANs and enhancing IP/TCP communication** across network layers, while providing efficient troubleshooting and reconfiguration support for ILL customers.

Technology Used: *CLI, SSH, Tectia, Ipv4, IPv6, TCP, MPLS, VLANs*.

PROJECTS:

Financial Analysis Application - Ledger Alchemy (Fullstack Web Application)
- Developed a **FinTech portal** for analyzing multi-bank transactions with **advanced data analysis and visualization**, boosting financial management and decision-making. Developed multiple **Web Services and microservices** for scalable Cloud Infrastructure.
- Incorporated Machine Learning for **91% accurate user goal predictions**, secured using **Single Sign-On (SSO) and Multi-Factor Authentication (MFA)**. Deployed on **Oracle Cloud** via Docker for optimal scalability and reliability.

Technology Used: *Node.js, Express, React, Redux, MySQL, RESTful APIs, CI/CD, Distributed Systems, Tableau, Docker, Rabbit MQ.*

Natural Language Processing for Indian Sign Language (Received $16000 grant from IBM)
- Developed an **Attention-based Encoder-Decoder model with LSTMs** to translate Indian Sign Language (ISL) into English, achieving a BLEU score of 32% with a custom dataset of 400 instances and a 1,000-word vocabulary.
- Integrated the model into a **Flask-based UI** using **HTML5, CSS3, and Bootstrap**, enabling accessibility for verbally impaired users

Technology Used: *Python, MatplotLib, Sklearn, NLP, Deep Learning, HTML5, CSS3, Bootstrap, Flask.*

AidEra- Your Elderly Helping Hand (LA Hacks 2024 Winning Project)
- Developed AidEra, linking elderly individuals with volunteers through a dynamic Community Tab and 24/7 AI Chat Interface.
- Implemented advanced functionality including a **Google Calendar Agent with Distributed AI Agents** for intelligent scheduling and an Email Priority Agent using prompt engineering techniques for streamlined communication management.

Technology Used: *React, Next.js, TypeScript, FastAPI, Python, Fetch.ai, Gemini, HTML, CSS, Distributed AI Agents.*