SAIRAJA KURELLI

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EDUCATION

University of Texas at Austin   Austin, TX
*Master of Science and Bachelor of Science in **Computer Science**, Minor in **Business** - 3.9 GPA*   *May 2025*

- **Relevant Coursework:** Machine Learning, Data Structures, Algorithms, Computer Architecture, Operating Systems, Graphics, Symbolic Programming, Programming for Correctness & Performance, iOS Development, Ethical Hacking
- **Graduate Courses:** Theory & Practice Of Secure Systems, Grounded Natural Language Processing, Communication Complexity, Program Synthesis, Programming Languages, Cybersecurity Technology, Cybersecurity Technology Law and Policy, Securing Real World Systems, Ethics of AI, Human-Computer Interactions

TECHNICAL SKILLS

Languages: Proficient with Python, Java, Scala, SQL, C/C++, SwiftUI, and React-Native with TypeScript
Developer Tools: Docker, AWS, Kafka, Kubernetes, UNIX, Git, Hadoop, and Spark

EXPERIENXCE

Software Engineer   Jun 2025 – Present
Visa Inc.

- Fixed data constency issues between PTDB and report generation tasks in **Scala** and **Java** by developing a solution to ensure data integrity and accuracy, resulting in a 30% reduction in data discrepancies
- Transformed fixed 1-second lag alerts into merchant-configurable alerts, allowing for dynamic adjustment of alert thresholds and reducing false positives by 70%

Software Engineer Intern   May 2022 – Aug. 2022, May 2023 – Aug. 2023, May 2024 – Aug. 2024
Visa Inc.

- (S24) Designed a real-time analytics system on Hadoop Resource Utilization, built to optimize performance for a distributed queue with $\geq$ **4k Virtual Cores** using **Apache Spark**, **Hive**, and **PowerBI**, fulfilling a key part of team's cloud migration initiative
- (S23) Built a **Spark** pipeline in **Scala** on Visa's **Hadoop File System** to extract **YARN** results for data analytics jobs across orgs, with a designed compression and repartioned schemes for a **10x** file-size reduction
- (S22) Optim. 16 core **SQL** scripts w/ **JDBC** connections to **Spark-Thrift** servers for faster in-house data processing
- Designed systems with **JUnit** Unit Testing and integrated into **Splunk** to monitor logs in an **Agile** environment

PROJECTS

- **MDP Modelling:** Designed a Programming Language with probablity embedded in the syntax to support modelling Markov Decision Processes (MDPs). Applied the language to model a Blackjack game, implementing a value iteration algorithm to compute optimal policies and value functions.
- **HackMerced-VII Winner (Lablr):** Designed a **Vue.js** Chrome extension with **OpenCV** to detect spatial pixel irregularities and assign tags on image distortions, integrated with Instagram data stored on **AWS S3**
- **TSGC's Design Challenge Team Software Lead (RegoSafe):** Trained computer vision model to classify lunar machinery status using **Detectron2** with **PyTorch**, scoring a 72 AP Score on test set

LEADERSHIP

President (2023-2024), Vice President of Finances (2020-2023)   Aug. 2020 – May 2024
Association for Computing Machinery   *University of Texas*

- Designed and hosted community events to build an ACM community of more than 300 UT Students
- Improved Academic Lesson Plans for CS 101s and pioneered new events like **AWS** and **Kafka** workshops
- Coordinated and directed budget resources over **$19,000** annually from 2020-2024

Lead Teaching Assistant   Jan. 2022 – May 2025
Elements of Computers and Programming   *University of Texas*

- Designed quizzes and **Docker** autograders for over **600** students and graded section's **Python** assignments
- Conducted office hours to help students work through questions over Data Structures and OOP concepts