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** - 3.8 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:** Cybersecurity Technology, Theory/Practice Of Secure Systems, Grounded Natural Language Processing, Cybersecurity Technology Law and Policy, Securing Real World Systems, Ethics of AI, Communication Complexity, Program Synthesis, Programming Languages, 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, LaTeX, Visual Studio Code, GitHub & GitLab

EXPERIENCE

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

- (S24) Designed a real-analytics system for Hadoop Resources, built to optimize performance of a distributed queue of $\geq$ **4k Virtual Cores** using **Apache Spark**, **Hive**, and **PowerBI**, a key part of team's cloud migration initiative
- (S23) Built a **Spark Scala** pipeline on Visa's **Hadoop File System** to extract **YARN** results for data analytics jobs across orgs, stored results using data repartitioning techniques & compression algos creating **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

Software Engineer Intern — Jun. 2021 – Aug. 2021
Tata Consultancy Services

- Executed data conversion for customers' AP, AR, and GL Transactions using FBDI CSV files
- Used Oracle **REST APIs** to update AP and AR invoices and Developed OTBI and BIP Reports using **SQL** queries

Student Researcher — Jun. 2019 – Aug. 2019
Rice University

- Collaborated with Prof. Shrivastava to research & fine-tune efficient bucket and permutation sizes for Minhashing
- Optimized Murmurhash implementation in **Python** for a **3-4%** improvement on sentiment analysis tasks

PROJECTS

- **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 detect and analyze lunar machinery status using **Detectron2** with **PyTorch**, scoring a 72 AP Score on test set
- **HackTX's Design Challenge Team Backend Lead (Farm Fresh News):** Developed a full-stack application aggregating farming news to determine crop outlook with **Google Natural Language API** sentiment analysis engine

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 – present
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