

SAINATH TALAKANTI

[My Portfolio](#)

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Education

University of Georgia

Aug. 2023 – 2025

Master of Science in Computer Science - CGPA: 3.45

Athens, Georgia

Relevant Coursework: Algorithms, Data Structures, Software Engineering, Database Management, Distributed Systems, Data Science, Machine Learning, Computer Vision, Object Oriented Programming, Computer Networks, Artificial Intelligence, Cloud Computing

Experience

Virtusa

Jan 2023 – April 2023

Student Intern

Hyderabad, India

- Collaborated with a team of 10 interns to develop a **Currency Conversion Application** using **ReactJS**, gaining hands-on experience with company technologies.
- Designed and implemented UI components, improving user experience and responsiveness.
- Worked closely with mentors to follow best practices in **frontend development** and software engineering principles.
- Developed an understanding of **Agile methodologies**, version control (Git), and API integrations.
- Successfully demonstrated technical proficiency, leading to a **full-time job offer** from Virtusa.

RAM Innovative Infotech | [Github](#)

Sep. 2022 – June 2023

Intern

Hyderabad, India

- Developed **Privacy and Anonymous Key Agreement for Cloud Computing**, enhancing secure user authentication.
- Designed a **Key Generation Center(KGC)** to generate long-term partial private keys for users and service providers.
- Strengthened key agreement mechanisms to ensure **user privacy**, **resistance to bad randomness**, and **protection against known-key and unknown key-share attacks**.
- Implemented a robust security protocol integrating **TLS Handshake (0-RTT)** and **certificate-less cryptography**.
- Worked with **Java** and **Eclipse**, leveraging **GitHub** for version control and collaboration.

Projects

RegPattern2Vec: Link Prediction in Knowledge Graphs | *Java, Neo4j* | [Github](#)

April 2025

- Developed a Neo4j plugin for generating graph embeddings to train Machine Learning pipelines for Link predictions and node classification.
- Designed a mechanism to convert Regular Expressions into DFAs for analyzing patterns in knowledge graphs.
- Transformed patterns into vector representations for use in machine learning pipelines for link prediction, node classification, and other applications.

Prediction of Impacts of Climate Changes on Crops | *Python, Jupyter* | [Github](#)

December 2024

- Built a data science application to predict environmental impacts on crop yields.
- Preprocessed large, noisy datasets to ensure high-quality analysis.
- Trained and evaluated multiple predictive models, including regression models and neural networks.

RustFL: A Federated learning Model using Rust | *Rust, Libtorch, Docker* | [Github](#)

November 2024

- Designed a federated learning framework for secure, asynchronous training of machine learning models with privacy preservation.
- Implemented features like Differential Privacy, Secure Multiparty Computation (SMPC), and Asynchronous Communication.
- Created a Docker image for seamless deployment across diverse environments.

Comparative Analysis of Algorithms for Image Classification | *Python, Jupyter, Tensorflow* | [Github](#)

April 2024

- Analyzed the performance of Convolutional Neural Network models (AlexNet, VGGNet-19, ResNet) on datasets such as CIFAR-10, CIFAR-100, and ImageNet.
- Conducted training, testing, and comparative analysis to evaluate model performance across different datasets.

Technical Skills

Languages: Java, C, Python, Kotlin, Rust, Scala

Technologies/Frameworks: ReactJS, Spring Boot, React-Native, HTML/CSS, JavaScript, Docker, Kubernetes, Computer Vision, AWS, Socket Programming, Apache Tomcat

Developer Tools: VS Code, JetBrains, Eclipse, Android Studio, Git, NPM, Gradle, Maven, Cargo

Databases: MySQL, PostgreSQL, Neo4j, MongoDB