Abhinava Sai Tirunagari

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# EDUCATION

**University of Florida** Gainesville, USA

Master of Science in Computer Science, **CGPA: 3.72/4** Fall’24-Present

Relevant Coursework**:** Advanced Data Structures, Computer Networks, Introduction to Data Science, Data Engineering, NLP

**Mahindra Ecole Centrale** Hyderabad, India

Bachelor of Technology, Computer Science Engineering, **CGPA: 8.94/10** 2019-2023

Relevant Coursework**:** DSA, DBMS, Computer Networks, Machine Learning, Deep Learning, Cryptography and Network Security.

# SKILLS

* **Languages:** Python, Java, C++, JavaScript, Go, Haskell
* **Web/Mobile:** React.js, Firebase, Android (Java), HTML/CSS
* **Back-End:** Java Spring Boot, Node.js, REST APIs
* **Databases:** PostgreSQL, MySQL, Oracle PL/SQL, NoSQL
* **DevOps/Tools:** AWS, Docker, Jenkins, Git, JIRA, CI/CD
* **Other:** ANTLR4, LLVM, WebAssembly, Streamlit

# WORK EXPERIENCE

**ADP** Hyderabad, India

**Member Technical** July’23 – June’24

* Developed scalable backend microservices using **Java Spring Boot** and integrated **React** and **Angular** front-end systems.
* Engineered cloud-native pipelines on **AWS**, reducing deployment friction by 40%.
* Built RESTful APIs for secure payment processing and integrated with PostgreSQL & Oracle databases.
* Led testing automation using Jenkins CI/CD and contributed to Agile planning via JIRA.

**ADVANCED DATA PROCESSING RESEARCH INSTITUTE (ADRIN-ISRO)** Hyderabad, India

**Research Intern** March – June 2023

* Developed a custom speech-to-text model to assist in querying geospatial databases.
* Trained a deep learning model for wake word detection and voice activation.
* Optimized natural language understanding (NLU) models for improved response accuracy.

# ACADEMIC PROJECTS

**UFO SIGHTING CLASSIFICATION** University of Florida / Spring 2025

* Developed a real-time UFO sighting classification and visualization system using Python, Streamlit, RabbitMQ, and Random Forest.
* Built a modular, message-driven architecture with containerized deployment and Pytest coverage for concurrency and edge-case reliability.

**DELPHI LLVM COMPILER & INTERPRETER TOOLKIT** University of Florida / Spring 2025

* Developed a Java-based toolchain with an ANTLR4 interpreter and LLVM IR compiler targeting WebAssembly.
* Modularized interpreter/compiler for real-time evaluation and browser-based execution with HTML+JS.

**BITTORRENT APPLICATION** University of Florida / Fall 2024

* Developed a Java-based peer-to-peer file-sharing system inspired by BitTorrent with custom tracker server and multi-threaded downloads.
* Implemented file chunking, bandwidth optimization, and fault-tolerant transfers with real-world performance simulations.

**EXPENSE MANAGEMENT SYSTEM** ADP/September 2023

* Developed a microservices-based employee expense tracker using Java Spring Boot, React.js, and PostgreSQL, with secure JWT authentication and modular architecture for department-based reporting.
* Implemented Agile practices using JIRA and deployed the system via CI/CD pipelines on AWS for streamlined automation and scalability.

# AWARDS AND ACHIEVEMENTS

* Awarded Institute Merit Scholarship for 3 consecutive years for academic excellence.
* Represented the University of Florida Cricket Team, winners of the 2025 [National Cricket League](https://collegiatecricket.com/) Tournament held in Texas.