

# ADITYA MADHUSUDHAN

Tallahassee | +1 (850)-980-1576 | [adityam945@gmail.com](mailto:adityam945@gmail.com) | [LinkedIn](#) | [GitHub](#) | [Portfolio](#)

A Computer Science Engineer with a keen interest to solve intricate and complex challenges through software engineering. Currently pursuing a master's degree in computer science to enhance my expertise computer fundamentals. Actively seeking for full-time opportunities and open for relocation.

## Education

**Florida State University**, GPA – 3.61/4

Masters Computer Science

Tallahassee, FL, USA

August 2022 – May 2024

**ACS College of Engineering** GPA – 3.1/4

Bangalore, KA, India

Bachelors Computer Science

July 2017 – July 2021

## Experience

**FSU Office of Distance Learning**, *Assessment and Testing*

October 2023 – Present

- Engineered a proctor scheduling application utilizing the **NextJS, ExpressJS, NodeJS, and MongoDB** stack to efficiently manage the allocation of resources.
- Implemented **advanced algorithms in Python** to equitably scheduling proctor resources and enhance workflow efficiency in the assessment office.

**Grassroots-GRSSL**, *Software Developer*

August 2021 – April 2022

- Architected and implemented a customer-relationship model leveraging **ReactJS, NextJS, MongoDB, and NodeJS**, resulting in a notable 2x increase in Business Process Outsourcing (BPO) efficiency.
- Applied **data mining techniques using Python** packages to enhance customer retention rates and satisfaction indices for a restaurant franchise, leading to a remarkable 25% increase in dine-in retention and an 18% boost in online retention.
- Optimized **server-side Python algorithms** for efficient computation of persistent and real-time data, effectively reducing server load.
- Developed user-exclusive functions with client and server-side **Cookie and JWT token authentication**, along with action classes in a **NodeJS environment**, providing secure authentication API.
- Designed data analytics services on a **NodeJS server and NoSQL database**, implemented aesthetic and responsive UI using **ReactJS, NextJS, and PHP**. Facilitated the provision of **heuristics and snapshots of business products**.
- Constructed an application in **ReactJS, PHP, NodeJS, and SQL** for an internal ticketing and service **heuristics system**.

**Oxyease**, *Software Development Intern*

February 2021 – June 2021

- Developed a robust medical inventory management system utilizing **ReactJS, NodeJS, Express, and MySQL**, streamlining inventory tracking and delivery management processes.
- Implemented **JWT-Token authentication services in NodeJS** to create a secure **multi-role user** environment.
- Structured backend servers using **NodeJS and ExpressJS API** services to facilitate real-time inventory updates and data retrieval, catering to various user roles.

**Marek Adventures**, *Software Development Intern*

October 2020 – December 2020

- Designed and developed a visually appealing and responsive website for an African touring firm using **WordPress, HTML and JS**, ensuring an engaging online presence.
- Implemented a **MySQL trigger** to intelligently adjust touring information, pricing calculations, and group bookings based on real-time demand and availability, optimizing operational efficiency.

**Esilicon TechnoDesign Private Limited**, *Software Development Intern*

July 2020 – September 2020

- Engineered data subscription APIs and implemented data preprocessing algorithms for both **SQL and NoSQL databases**.
- Designed cookie-based authentication utilizing **NodeJS and Express** to develop **API services to create** secure access to API endpoints.

## Freelance Experience

**NH Robotics**, *Freelance Software Developer*

- Collaborated on **Robot Operating System (ROS) and ROS bridge Python packages**, facilitating communication between the robot and the wireless server.
- Conducted **data analytics using Python** packages to predict faulty robot parts. Further, implemented services for **predicting collision distance and generating maps using image and LiDAR data streams**.

## Academic Projects

### Edge-Disjoint Partitioning

Implemented a research paper algorithm in **Java**, the program calculated **shortest path in directed weighted graphs and sub-graphs** without the need for prior data pre-processing.

### Image compression using Auto-Encoders

Trained four Auto-Encoder neural network models on four image datasets using **torch modules, tensor arrays, Python, and Binary Cross Entropy (BCE) Loss** for both network construction and validation.

## Technical Skills

**Programming:** JavaScript, Python, HTML/CSS, TypeScript, Java, JSON, XML, Kotlin, Swift, C/C++.

**Application Framework and modules:** NodeJS, ReactJS, React-Native, NextJS, AngularJS, ReduxJS, Git, Java for Android Django, ExpressJS, Fastify, StrapiJS, flask, pytorch, Tensor, NumPy, Pandas, .Net, C#, Docker, JSF, Spring, Springboot, Figma.

**Databases:** MySQL, MongoDB, DynamoDB, S3 Bucket, OracleDB, Azure Blob Storage, CosmosDB, Mongo-Atlas.

**Cloud Services:** Lambda, EC2, Amplify, Cognito, API Gateway, Vercel, Heroku, Azure Virtual Machines.