# Tharun Kumar Reddy Polu

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## EDUCATION

**Master of Engineering, Computer Software Engineering -** University of Maryland, College Park, MD *Expected Dec 2024*
*Coursework: Object Oriented Design, Data Structures and Algorithms (DSA), Cloud Security, AI & Deep Learning* *CGPA: 3.65/4.00*

**Bachelor of Engineering, Electronics & Communications Engineering -** JNTU, Hyderabad, India *Jun 2017 - Jul 2021*
*Coursework: Programming in C, Java Programming, Computer Networking, Digital network design, Logic Design* *CGPA: 3.50/4.00*

## SKILLS

**Programming Languages:** Java, Python, C/C++, JavaScript, TypeScript, SQL, HTML, CSS, Bash, Object Oriented (OOPS)
**Frameworks and Tools:** Django, Spring, ReactJS, NodeJS, Git, GitHub, Postman, ELK stack, GraphQL, HTTP/(S), JSON/XML, TCP/IP, JIRA
**Databases:** MySQL, MongoDB, PostgreSQL, Redis, DynamoDB, SupaBase, CosmosDB
**Methodologies:** Agile, Scrum, TDD, functional programming, Software Development Life Cycle (SDLC), Design Patterns, Code Reviews
**Certifications:** Harvard CS50: Intro to Computer Science, Microsoft Azure Developer Associate, AWS Cloud Practitioner Essentials

## WORK EXPERIENCE

**Software Development Engineer (GRA-II) |** University of Maryland, College Park, USA *Apr 2023 – Present*
*Technologies and Tools: Python, Pandas, UNIX/Linux, Salesforce, REST APIs, shell scripting, AWS, Gitlab, Postman(for API Testing), SQL*
- Collaborating with a 5-member engineering team in weekly updates to the data pipeline, supporting over 5 Million attribute updates using Python, REST APIs and incorporated database partitioning resulting in a 45% SQL query performance boost.
- Implemented a data-sync system designed to migrate records utilizing AWS S3, DynamoDB and Salesforce CRM, reducing manual data entry by 80%, maintaining data integrity and logging, and improved data accessibility by data analytics team.
- Reduced CRON jobs run time from 12 hours to ~35 minutes using the Last Successful Run(LSR) algorithm developed in-house and saved 5 hours/month for synchronization jobs status checks by integrating Google email notification service.

**Software Engineering Prep Fellow |** Major League Hacking Inc., New York City, USA *Mar 2023 - Apr 2023*
*Technologies and Tools: ReactJS, Node.js, REST Application Programming Interfaces (APIs), Jekyll, Ruby on Rails, MongoDB (NoSQL)*
- Engineered a weather-based trip planning full stack web application end-to-end utilizing the ReactJS, NodeJS, Jekyll, earning a commendable 4.7/5 endorsement from project mentors.
- The core application features real-time weather data modules for over 75 locations using OpenWeatherMap API, enhancing travel efficiency by 20% with personalized recommendations and packing tips for the users.

**Software Engineer (TCS Digital) |** Tata Consultancy Services Ltd., Hyderabad, India *Jul 2021 - Dec 2022*
*Technologies and Tools: Core Java, Spring Boot, Kafka, JUnit, Soap UI, Apache Tomcat, ELK Stack, Jenkins, OracleDB, TestNG, Guidewire*
- Architected 10+ REST APIs, scalable microservices and backend web services on Azure from the ground up employing Java, and Spring boot which imports data from over 30 insurance systems, processes required information for end users and 200+ brokers.
- Integrated kafka into microservices, achieved 35% faster broker notifications processing and enhanced inter-process communication
- Created and automated testing of over 50+ test scripts using Tricentis Tosca, Selenium, and JUnit, decreasing manual testing and validation efforts by 70% and contributing to fintech customer success.

**Software Engineering Intern |** Tech Mahindra Ltd., Hyderabad, India *Mar 2021 - Jul 2021*
*Technologies and Tools: Java, Spring, OAuth, JWT, REST APIs, Redis, Spring Security, Jekyll, Ruby on Rails, MongoDB (NoSQL)*
- Developed and maintained robust backend REST APIs for a healthcare management dashboard using Java and Spring Boot.
- Enhanced database operations efficiency by 75% by incorporating Redis caching on server side and introduced CRON Jobs.
- Improved REST API security by 40% through the implementation of Spring Security's OAuth2, ensuring data transit compliance.

## PROJECTS

**MathQuest |** *ReactJS, NodeJS, MongoDB, Jest, GitHub Actions, Docker, AWS(ECR, App Runner), Terraform* | (Github)
- Led a team of 5 people to construct a 3-tier distributed and scalable learning management system(LMS) on AWS designed to deliver math courses and curriculum asynchronously. Utilized Jest to perform testing for 500+ live users with code coverage above 90%.

**Graduate Market Place |** *Python, HTML, CSS, JavaScript, Tailwind CSS, Django, MySQLDB, Docker, AWS EC2* | (Github)
- Developed and deployed an innovative online marketplace for the student community, enabling seamless buying and selling of used/ new products and fostering a vibrant campus economy. Raised transactions by 50%, fostering a sustainable student economy.

**Librarian Bot** | *HTML, CSS, PHP, Xampp server, GitHub, MySQL, CI/CD, Kubernetes, Google Cloud Platform* | (Github)
- Implemented and automated the book borrowing and returning capabilities, streamlining library transactions, enhancing user experience (UI/UX) for over 1600 students and 20 librarians while decreasing manual work logging by 80%.

## AWARDS & ACHIEVEMENTS

- 2024 | Achieved top 1% on Topmate.io, positively impacting over 40 students with an average rating of 4.9/5. (Topmate profile)
- 2023 | Selected for a pod of 16 remote developers for MLH Prep Fellowship out of 30000+ applicants (Pod Portfolio)
- 2022 | Ranked top 50 out of 5,500 software developers in Microsoft's Power to You Coding Contest.
- 2021 | Placed in top 1% nationally(India) in TCS Digital Cadre coding challenge among over 150,000 participants.