SURENDAR MOUROUGAN

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EDUCATION

University of Massachusetts, Lowell   **Sep 2023 - Jun 2025**
Master's, Computer Science
- **Coursework:** Data Science, Data Mining, Algorithms, Internet of Things, Operating Systems, Advanced Topics in Network Security, Machine/Deep Learning Security and Privacy

SASTRA Deemed to be University, Tanjore, India   **Jul 2022**
Bachelor of Technology, Electronics and Instrumentation Engineering

WORK EXPERIENCE

Software Engineer | Mphasis Limited, Chennai, India   **Jun 2022 - Jul 2023**
- Developed and maintained responsive web applications using Java, Spring Boot, JavaScript, HTML, CSS, and Bootstrap.
- Deployed scalable applications on AWS (EC2, S3, RDS), reducing downtime by 30% through optimized cloud configurations.
- Implemented CI/CD pipelines using AWS CodeCommit, and Git, streamlining software deployment and reducing release cycle time.
- Strengthened security by configuring IAM policies, network isolation (VPC), and access controls, mitigating security risks.
- Completed a Java Full-Stack Development Training (3 months), enhancing proficiency in both front-end and back-end technologies.

Student Grader – Analysis of Algorithms | *University of Massachusetts, Lowell | Computer Science* Feb 2025– Present
- Assessed coding assignments and exams for Analysis of Algorithms, ensuring grading accuracy and fairness.
- Provided detailed feedback on algorithm design, complexity analysis, and problem-solving techniques.
- Maintained student records and submitted grades via Blackboard, ensuring timely academic evaluations.

PROJECT EXPERIENCE

To-Do List Android Application   *Independent Project*
- Developed a feature-rich To-Do List Android app using Java. Implemented task management functionalities: adding, editing, marking as complete, and deleting tasks. Designed an interactive UI with RecyclerView for task listing and Material Design components for a seamless experience.
- Utilized Room Database (SQLite) for persistent task storage, ensuring data remains across sessions. Integrated custom TaskAdapter for smooth task rendering and interaction.

Encrypted Overlay Network / **University of Massachusetts, Lowell**   **Mar 2024 - May 2024**
- Built an encrypted communication network with authentication mechanisms for secure data transmission.
- Integrated secret key encryption into the client-server architecture, ensuring confidentiality

Remote Patient Health Monitoring / **University of Massachusetts, Lowell**   **Oct 2023 - Dec 2023**
- Developed an Android app using Java & TensorFlow Lite, predicting heart failure risks based on real-time data.
- Implemented an LSTM-based ML model, achieving an accuracy of X% for patient health predictions
- Designed and integrated a notification system, alerting emergency contacts when abnormal health metrics were detected

TECHNICAL SKILLS

- **Programming:** Java (Spring Boot, Hibernate), C, C++, Python (Pandas, TensorFlow, NLP), Angular (JavaScript, Bootstrap, HTML, CSS, React, Next.js, HTML, CSS)
- **Database:** SQL(MySQL, PostgreSQL), NoSQL (MongoDB, Firebase)
- **State Management:** Redux, React Query

Cloud & DevOps:
- **AWS** (EC2, S3, RDS, IAM, CodeCommit)
- **CI/CD** (Docker, Kubernetes, GitHub, Git)

Software Development:
- Web & Mobile Development (Android Studio)
- Machine Learning & AI, Secure Network Design

CERTIFICATIONS & TOOLS

- Security Fundamentals
- GitHub, Visual Studio Code, Android Studio, Weka, Vercel