

Hemang Murugan

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Academic Qualifications

Northeastern University

January 2025

Master's in Computer and Information Sciences

Bannari Amman Institute of Technology (Affiliated with Anna University)

August 2018 - May 2022

Bachelor of Engineering | Computer Science and Engineering | CGPA: **8.49/10**

SKILLS

Programming Languages: Java • JavaScript (ES6 and CJs) • TypeScript • Python • C/C++ • HTML • CSS

Frameworks: Angular • React JS • React Native • NgRx • Redux • Fastify • TensorFlow • Express JS • Node JS

Databases: MongoDB • MySQL • Supabase • Firebase

Tools and Services: Git • Docker • Kubernetes • Google Cloud • AWS • Azure • Selenium • Lobe AI • Jira • Figma • Photoshop

Experience

Morbium Technologies

Coimbatore, India

Full-stack Developer (Full Time) – Co-Founder

September 2022 - November 2024

- Developed software for Reliance's vending machines to predict refill needs based on the user's consumption. The machine utilizes AI to blend flavors to create new drinks, boosting market engagement.
- Led the design and development of several enterprise-grade microservice applications for renowned corporations including Coffee Day, Reliance, Emerald Jewel Industry, Adisil and Evolve Back using technologies such as **Angular, Azure, React Native, PostgreSQL** and **Express**.

Innotek Automation

Bangalore, India

Full-stack Developer (Full Time)

December 2021 - September 2022

- Developed AI-powered vending machines with React Native and scalable APIs using Node.js, MongoDB, and Azure to manage consumption patterns. Created a store monitoring solution with TensorFlow and Google Cloud Vision for CCTV feed analysis. Recognized for reducing server costs by 30% through an efficient backend system with Node.js.

Hyperwork

Emden, Germany

Software Engineer Intern

August 2021 - November 2021

- Designed and developed a sophisticated website for ReflectSecurity, meticulously crafting both the frontend and backend components.

Innotek Automation

Bangalore, India

Software Developer Intern

May 2019 - June 2019

- Constructed a microservice using Node.js to manage various parts of vending machine operations via cloud-based infrastructure, using services such as **AWS Lambda** and **Kubernetes** for robust execution and scalability.

Projects

Washbot [React Native | Image Processing (VGG19) | Object Detection | Amazon SageMaker]

March 2019 - April 2020

- Developed a Hand Wash Monitoring System to track routines per WHO standards using Node.js, MongoDB, and SageMaker for real-time inference. The system received \$25,000 in funding and was recognized by hospitals and media outlets.

Soldier Strap [React Native | LoRa | GPS | MAX 30100 | MLX 90614 | AWS]

March 2020 - November 2020

- Developed a LoRa-based device to monitor and transmit soldiers' vitals (heartbeat, blood oxygen, location) via a mesh network, enabling long-range data transfer without internet connectivity.

Amber - AI-based Alert system [React Native | NLU | CNN | RNN | HMM | Node.js | MongoDB]

September 2020 - March 2021

- Amber is an AI-powered emergency alert system for children and women, using a key phrase to detect danger and trigger SOS alerts without the internet. It leverages LoRa technology to send alerts or create a mesh network in remote areas, and integrates into a wearable device with Bluetooth, voice recognition, and location tracking for effective responses.

Achievements

- Won **first** place for the development of **Washbot** at **MHRD Mega Online Challenge (2020)** and **Smart India Hackathon 2019**
- Secured **third** place for the development of **Soldier Strap** at **Hack and Tackle 2.0 (2020)**
- **Top 10 performers** at **Anokha TECHfair 2020**

Certifications

- Received certification for completing **The Complete 2024 Web Development Bootcamp** at Udemy (**June 2024**)
- Received certification for completing **The Complete 2022 Data Science and Machine Learning Bootcamp** at Udemy (**January 2022**)
- Received certification for completing **The Complete 2021 Flutter Development Bootcamp with Dart** at Udemy (**January 2022**)
- Received certification for **Lucideus Certified Security Professional (2019)**

PATENT

- Personal electric women safety device (Application Number: 202141025203)