Hemang Murugan

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EDUCATION

Northeastern University — Boston, MA
Master's in Computer and Information Sciences — Jan 2025 - Present

Bannari Amman Institute of Technology, Anna University — Erode, TN, India
Bachelor of Engineering in Computer Science and Engineering | CGPA: 8.49/10 — Aug 2018 - May 2022

SKILLS

Languages: Java, JavaScript, TypeScript, Python, C/C++, HTML, CSS
Frameworks: Angular, React JS, React Native, NgRx, Redux, TensorFlow, Express JS, Node JS
Tools: Git, Xcode, Docker, Kubernetes, Google Cloud, AWS, Azure, MongoDB, MySQL, Firebase

WORK EXPERIENCE

Morbium Technologies — Coimbatore, India
Software Engineer (Full Time) - Co-Founder — Sep 2022 - Nov 2024

- Developed AI-powered software for Reliance's vending machines to predict refill needs, reducing transportation costs by 25% and boosting sales by 18% through AI-based intelligent flavor blending.
- Built smart combination oven for Adisil with IoT/AI features using AWS, Node.js, and React Native. Scaled to 500+ units across India, supporting 10,000+ active users with 30% efficiency improvement.
- Led development of 8+ enterprise microservice applications for Coffee Day, Reliance, Emerald Jewel Industry, and Adisil, achieving 40% improvement in system scalability and user satisfaction.

Innotek Automation — Bangalore, India
Full-stack Developer (Full Time) — Dec 2021 - Sep 2022

- Developed AI-powered vending machines with React Native and scalable APIs using Node.js, MongoDB, and Azure. Created store monitoring solution with TensorFlow and Google Cloud Vision for CCTV analysis.
- Reduced server costs by 30% through efficient backend system optimization with Node.js.

Hyperwork — Emden, Germany
Software Engineer Intern — Aug 2021 - Nov 2021

- Designed and developed ReflectSecurity's website using React, Node.js, and MongoDB, increasing user engagement by 30% through responsive UI/UX design.

PROJECTS

GameTales | *React, Node.js, PostgreSQL, OpenAI API, Natural Language Processing* — Summer 2025

- Built an AI-powered platform that automatically converts stories and novels into interactive video games using natural language processing. The system parses narrative text, generates game mechanics and environments, enabling users to transform any written story into a playable gaming experience.

Washbot | *React Native, Image Processing (VGG19), Object Detection, Amazon SageMaker* — Mar 2019 - Apr 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* — Mar 2020 - Nov 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, RNN, HMM, Node.js, MongoDB* — Sep 2020 - Mar 2021

- Built Amber, an AI-powered wearable that detects danger via voice and sends offline SOS alerts using LoRa, with 95% success in rural testing. Developed an ios and android application to connect to the wearable.

ACHIEVEMENTS

Awards: Won first place for the development of Washbot at MHRD Mega Online Challenge (2020) and Smart India Hackathon 2019
Competition: Secured third place for the development of Soldier Strap at Hack and Tackle 2.0 (2020)

CERTIFICATIONS

Lucideus: Cyber Security Professional

PATENTS

Personal electric women safety device (Application Number: 202141025203)