SAHIL BODKE

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EDUCATION

Northeastern University (Khoury College of Computer Sciences), Boston, MA   **Sept 2022 – Dec 2024**
Master of Science in Robotics (Concentration: Computer Science)   GPA 3.96/4.0
National Institute of Technology Silchar, Assam, India   **July 2018 – May 2022**
Bachelor of Technology – Mechanical Engineering   GPA 8.98/10.0

TECHNICAL SKILLS

Programming Languages: Python, R, C++, JavaScript, Java, MATLAB, Groovy
Cloud & DevOps: Azure, AWS (EC2, Lambda, S3, Batch, Sagemaker, Bedrock, Fargate, ECS, EFS, FsX, EBS, ECR), Serverless, Docker, GitHub, GitHub Actions, GitLab, CI/CD, NGINX, Linux
Frameworks & libraries: PyTorch, TensorFlow, Keras, OpenCV, NumPy, Pandas, Nextflow, Dash, Figma
Web Technologies: FastAPI, React, Node.js, Express.js, Mongoose, REST API, HTML, CSS, Bootstrap, Svelte, TypeScript
Databases: MySQL, MongoDB, PostgreSQL, Athena, RDS, DynamoDB, DuckDB
AI & Other Tools: **MCP, Cursor**, **Windsurf**, **Kiro**, Git, Tableau, VS Code, Postman, ROS

EXPERIENCE

UniBio Intelligence, USA (Software Engineer)   **July 2025 – Present**
- Developing an AI-native web application on **Microsoft Azure** to empower scientists to perform complex data analysis and accelerate the research lifecycle
- Architected and implemented core backend services, including a centralized LiteLLM API proxy for unified model access to diverse AI models and a robust token-based usage tracking system for secure resource management
- Advanced the platform's capabilities towards an Agentic AI framework by integrating Model-Context Protocol (MCP) tools to dynamically orchestrate computational models and workflows

Ampersand Biomedicines, Boston, USA (Machine Learning Engineer Co-op)   **Feb 2025 – July 2025**
- Engineered and deployed scalable **Generative AI models** on **AWS** for antibody sequence analysis, automating endpoint configuration with Python/Boto3 to reduce setup time by **30%**
- Implemented high-throughput **AWS Batch** pipeline, reducing computation times by **40%** through optimized, **distributed computing**

Ampersand Biomedicines, Boston, USA (AI/Data Engineering Co-op)   **Jan 2024 - Aug 2024**
- Architected and automated end-to-end single-cell RNA-seq pipelines using **Nextflow**, **Docker**, and **AWS Lambda**, cutting processing costs by **50%**
- Engineered a gene expression analysis pipeline utilizing **Dask** for distributed computing, reducing memory consumption by **50%** through optimized data handling in **Parquet** format
- Developed interactive dashboards using **Tableau** to visualize gene expression data, facilitating data-driven decision-making

PROJECTS

API Development Using Python (FastAPI, PostgreSQL, Docker, NGINX, JWT, GitHub Actions, Ubuntu)   **July 2023**
- Designed and implemented a secure **API** for user-generated content sharing using **FastAPI**, integrating **PostgreSQL** , incorporating **JWT-based** authentication to secure endpoints
- Established a robust **CI/CD** pipeline; containerized the application with **Docker**, configured **NGINX** as a reverse proxy, and automated the entire testing and deployment process using **GitHub Actions**

Food Delivery App using MERN Stack (MongoDB Atlas, Express.js, React, Node.js, JavaScript, JWT)   **May 2023**
- Designed and developed a food delivery **web application** using the MERN stack to provide secure and interactive food ordering experience
- Built an intuitive frontend with **React and Bootstrap**, and robust backend using **Node.js and Express.js** connected to **MongoDB Atlas**
- Implemented strong security measures, including **bcrypt.js** for user credential encryption and JWT for user authentication, ensuring data integrity and user privacy in the developed platform

ACHIEVEMENTS & CONTRIBUTIONS

- A Fish Robot: It's Modeling and Pose Estimation: Presented at the 2021 International Symposium of Asian Control Association on Intelligent Robotics and Industrial Automation (IRIA)
- **Teaching Assistant** for 'Programming with Data' course for **2 semesters** assisting students with assignments and labs
- Recipient of **'Assistance to Meritorious Students Scholarship – Junior Level'** for outstanding academic performance

COURSES & CERTIFICATIONS

AWS – AI Practitioner | Algorithms | Neural Networks and Deep Learning | Natural Language Processing | Pattern Recognition and Computer Vision | Human Computer Interaction