

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, Svelte , React, Node.js, Express.js, Mongoose, REST API, HTML, CSS, Bootstrap, TypeScript
Databases:	MySQL, MongoDB, PostgreSQL, Athena, RDS, DynamoDB, DuckDB
AI & Other Tools:	MCP, Claude Code, Cursor, Windsurf, Kiro , Git, Tableau, VS Code, Postman, ROS

EXPERIENCE

UniBio Intelligence, USA (Software Engineer)	July 2025 – Present
<ul style="list-style-type: none">Worked on a microservices-based biologics platform using Python (FastAPI) and 10+ containerized services on Azure, enabling researchers to execute AI-powered computational workflows through stable, containerized APIsDesigned a PostgreSQL-backed asynchronous job persistence system, implementing explicit job state transitions, historical traceability, and deterministic recovery behavior for interrupted executionsAdded Model Context Protocol (MCP) support to existing OpenAPI services using parallel execution paths for safe, incremental adoption; implemented stateless MCP services with JWT-based identity propagation across distributed systemsDeployed and operated MCP servers on Azure Container Apps via CI/CD pipelines, and integrated MCP tooling into a production chat application to enable dynamic tool calling, structured outputs, and multi-tool AI agent workflows, while improving build reproducibility and environment parity	
Ampersand Biomedicines, Boston, USA (Machine Learning Engineer Co-op)	Feb 2025 – July 2025
<ul style="list-style-type: none">Productionized ML inference services on AWS by automating endpoint provisioning and deployment workflows using Python and infrastructure APIsDesigned a distributed AWS Batch pipeline to parallelize large workloads, reducing end-to-end job execution time by 40%Collaborated with research teams to transition experimental code into maintainable, monitored production services	
Ampersand Biomedicines, Boston, USA (AI/Data Engineering Co-op)	Jan 2024 - Aug 2024
<ul style="list-style-type: none">Architected cloud-native data pipelines using Docker, serverless compute, and workflow orchestration, reducing operational cost by 50%Built distributed data processing jobs to handle large datasets efficiently, optimizing memory usage and execution timeDelivered data-backed internal Tableau dashboards enabling non-engineering users to explore and analyze results independently	

PROJECTS

API Development Using Python (FastAPI, PostgreSQL, Docker, NGINX, JWT, GitHub Actions, Ubuntu)	July 2023
<ul style="list-style-type: none">Designed and implemented a production-style REST API using FastAPI and PostgreSQL, supporting authenticated user-generated content with JWT-based securityModeled relational schemas and query patterns in PostgreSQL to support scalable, user-driven workloadsContainerized services with Docker, configured NGINX as a reverse proxy, and implemented a CI/CD pipeline using GitHub Actions	
Food Delivery App using MERN Stack (MongoDB Atlas, Express.js, React, Node.js, JavaScript, JWT)	May 2023
<ul style="list-style-type: none">Built a full-stack MERN application with React frontend enabling user authentication, order management, and secure data persistence using MongoDB AtlasDeveloped Express.js backend APIs with JWT-based authentication and secure data access patternsDesigned frontend-backend API contracts, enabling scalable, decoupled interaction between the React UI and backend servicesIntegrated MongoDB Atlas for persistent data storage and user session management	

ACHIEVEMENTS & CONTRIBUTIONS

- Co-authored and presented research on **A Fish Robot: It's Modeling and Pose Estimation** at: Presented at the [2021 International Symposium of Asian Control Association on Intelligent Robotics and Industrial Automation \(IRIA\)](#)
- Teaching Assistant** for **Programming with Data** course assisting students with assignments and labs across **2 semesters**
- 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