

# Orbin Ahmed Acanto

<https://orbin-portfolio.vercel.app/> • <https://github.com/Orbin-Ahmed>

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Queens • New York • NY | US Permanent Resident

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## SUMMARY

Full Stack AI Engineer specializing in AI driven systems, LLM powered applications and enterprise SaaS platforms with 5 plus years of experience building production grade solutions across healthcare, real estate and enterprise environments. MSc in Biomedical Informatics from Stony Brook University with research in transformer models, multimodal learning and computer vision. Experienced in architecting end to end systems using Next.js, React, Django, Python, and AWS cloud infrastructure, with deep expertise in RAG pipelines, Multi-agent based AI workflows using LangChain and LangGraph, scalable multi tenant architectures, and secure production deployments.

## CORE SKILLS

**Languages:** Python, JavaScript/TypeScript, SQL, HTML/CSS

**Data/ML:** Pandas, NumPy, scikit-learn, PyTorch, TensorFlow, Transformers, LangChain, Pinecone

**Automation & Integration:** N8N, Make.com, LangGraph, REST APIs, GraphQL, Terraform

**Web & Frontend:** React, Next.js, Tailwind CSS, Bootstrap

**Backend & APIs:** Django/DRF, Node.js, FastAPI, Celery, Redis, PostgreSQL

**DevOps & Cloud:** AWS (EC2, S3, RDS, CloudFront, ECS, Fargate, CloudWatch), Docker

**Dev Tools:** Git/GitHub, CI/CD, Linux, Jest, pytest

## WORK EXPERIENCE

### FIDI Hospitality

Oct 2025 – Present

Web & AI Automation Engineer

Long Island, NY

- Independently designed and delivered a SaaS based AI powered staffing platform, owning the full lifecycle from planning and system architecture to development and production deployment. Built the frontend in Next.js and the backend in Django with PostgreSQL and Redis, implementing tenant level data isolation, RBAC, JWT authentication, CSRF protection, rate limiting, and comprehensive audit logging for enterprise grade security. Developed a fully integrated system covering staff management, event scheduling, roles and groups, locations, payroll, and time and attendance, significantly reducing manual hiring and coordination workload for management teams.

### Ideal Factory

Apr 2024 – Sep 2025

Technical Lead - AI Systems

Abu Dhabi, UAE

- Built an AI powered 3D Floor Planning platform using Next.js, React, and TypeScript with Django, PostgreSQL, and Redis. Integrated 200 plus in house 3D furniture assets and

deployed Blender Python rendering pipelines on Beam with multi GPU support, enabling real time browser based lighting and material control. Reduced design turnaround from four days to under two hours and improved rendering performance by 80 percent while serving 30 plus clients.

- Engineered Project SARA, an enterprise AI automation system using Django, LangGraph, and Next.js, deployed on AWS Fargate and EC2 with Docker. Developed seven AI agents across Sales, HR, Accounts, and Project Management layered over built in CRM, task management, meeting scheduler, and accounts modules. Implemented RBAC, JWT authentication, Redis caching, rate limiting, and security controls to deliver secure, scalable business automation across teams.

**Memorial Sloan Kettering Cancer Center**

Jun 2025 – Aug 2025

## Summer Intern (AI/ML Team)

New York, USA

- I architected and deployed a custom Retrieval Augmented Generation pipeline built on LangChain to enable clinicians to query 200 plus page medical guidelines in real time. I evaluated the system against a baseline RAG implementation using quantitative metrics including F1 score, ROUGE L, BERTScore, BLEU, and BLEURT, along with qualitative dimensions such as relevance, accuracy, completeness, source attribution and clarity. The optimized pipeline achieved a 17 percent performance improvement over the baseline model. The solution was containerized and deployed on AWS ECS using Terraform for infrastructure as code, with monitoring and logging configured through CloudWatch to ensure reliability, scalability and production readiness within hospital workflows.

**Stony Brook University**

Nov 2024 – Jun 2025

## Senior Research Assistant

New York, USA

- I enhanced DNABERT by adding multimodal embeddings that combined nucleotide sequences with physicochemical features, improving promoter prediction performance by 16 percent in F1 score. I built scalable genomic data pipelines for species classification, motif detection, and regulatory analysis across large datasets. In computational pathology, I improved nuclei segmentation by integrating stain normalization into the HoVer Net pipeline, strengthening downstream tumor classification. I also developed a breast cancer whole slide image tumor prediction workflow with Macenko normalization, reproducible tiling, and batched inference, improving runtime efficiency and cross scanner stability.

**Increments Inc**

May 2022 – Oct 2023

## Software Engineer I

Dhaka, Bangladesh

- I led requirements engineering for five projects by producing detailed SRS documentation and UML diagrams that defined system architecture, workflows, and API contracts, reducing scope ambiguity during development. I built and deployed multi tenant platforms including MakeMyMenu.io for 100 plus restaurants and FindMyWorks for 200 plus job seekers, using

React and Django with REST APIs and AWS infrastructure such as EC2, RDS, and S3 for scalable production deployment. I also customized ERPNext solutions with backend scripting, modular configurations, and structured testing to streamline enterprise business processes and reporting.

### **Techynaf Technologies Limited**

Jun 2021 – Apr 2022

#### Software Engineer I

Dhaka, Bangladesh

- I collaborated with a cross functional engineering team to architect and deliver the first Bengali language ERP platform using Django with REST APIs, React for modular frontend components, and PostgreSQL for relational data modeling. The system was deployed on AWS using EC2, RDS, and S3 to ensure scalability, high availability, and secure data storage. The platform supported over 1000 active users across multiple government offices and contributed to securing additional government and private funding through strong system adoption, performance stability, and continuous feature enhancements driven by user feedback.

## **EDUCATION**

### **Stony Brook University**

New York, USA

#### Master of Science in Biomedical Informatics

Aug 2024 – Dec 2025

### **Lab Experience:**

- **Dr. Davuluri's Lab:** Applied BERT models for DNA embedding generation, species classification, motif detection, and gene regulatory analysis.
- **Dr. Chen's Lab:** Implemented CellViT and HoVer-Net for pathological image analysis, cell classification, and tumor segmentation with spatial analysis.

### **BRAC University**

Dhaka, Bangladesh

#### Bachelor of Science in Computer Science & Engineering

May 2022

## **PROJECTS**

### **AI Powered Staffing Platform | Next.js, Django, PostgreSQL, Redis, AWS**

- Independently architected and delivered a multi-tenant SaaS staffing system to automate event based hiring and workforce coordination, owning the full lifecycle from planning and system design to production deployment.
- Built the frontend in Next.js with secure server side API handling and the backend in Django with REST APIs, PostgreSQL, and Redis caching for high performance data access.
- Implemented tenant level data isolation, RBAC, JWT authentication, CSRF protection, rate limiting, and full audit logging to ensure enterprise grade security and compliance.

- Developed fully integrated modules for staff management, events, roles and groups, locations, payroll, and time and attendance, significantly reducing manual workload and improving operational visibility for management teams.

#### **AI-Powered Clinical Knowledge Retrieval System | Python, LangChain, AWS, Terraform, Docker**

- Designed a production grade RAG pipeline using LangChain to index and retrieve 200 plus page BMT clinical guidelines with source grounded, context aware responses for clinical decision support.
- Developed a secure document ingestion and embedding pipeline enabling dynamic upload, chunking, vectorization, and efficient retrieval of guideline documents.
- Containerized the application with Docker and deployed on AWS ECS using Terraform for infrastructure as code, ensuring scalability, monitoring, and production reliability within the institutional AI portal.

#### **Enterprise Process Automation Platform (SARA) | Next.js, LangGraph, Python, Django, PostgreSQL**

- Architected an agent based AI automation platform using LangGraph to orchestrate Sales, HR, Accounts, and Project Management agents across a unified enterprise system.
- Built integrated CRM, task management, meeting scheduler, and accounts modules, enabling automated lead management, ERP synchronization, onboarding workflows, and AI assisted quotation generation with human in the loop approvals.
- Reduced manual operational workload by 95 percent while improving data consistency, cross department visibility, and real time process coordination across teams.

#### **3D Floor Planner | Next.js, Django, Python, PostgreSQL, YOLOv8, Stable Diffusion, Blender**

- Designed and built a production scale AI powered interior design platform using Next.js and Django, achieving 93 percent floor plan detection accuracy and serving 30 plus enterprise clients.
- Implemented a computer vision pipeline with YOLOv8 for automated floor plan parsing and integrated generative models for intelligent interior redesign and layout enhancement.
- Developed a browser based 3D planning interface with a 200 plus asset furniture library and realistic rendering powered by Blender with multi GPU cloud execution, generating over 2000 high resolution renders while reducing processing time by 80 percent.

## **PUBLICATIONS**

- [1] “A hybrid approach to determine patient's critical situation using deep learning algorithms” 2022 2nd International Conference on Computing and Machine Intelligence (ICMI), 2022.
- [2] “Augmenting DNABERT embeddings with multimodal DNA features for improved regulatory sequence interpretation” In Proceedings of the 2025 Machine Learning in Computational Biology (MLCB) Conference.