

Aruzhan Bolatova

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EDUCATION

New York University

Bachelor of Science in Computer Science - GPA: 3.86/4.00

Minors: Natural Sciences, Applied Mathematics

Relevant Coursework: Algorithms, Data Structures, Software Engineering, Operating Systems, Database Systems (MS level), Computer Networks (MS level), Computer Systems Organization, Probability and Statistics, Linear Algebra

Abu Dhabi, UAE

May 2026

WORK EXPERIENCE

Full-Stack & DevOps Intern

PANIO - Canine Longevity Health Tech Startup

May 2025 – Present

Dubai, UAE (remote)

- Built FastAPI backend module to **parse unstructured medical data** using PDF processing libraries and **GCP OCR**
- Engineered an **AI engine with LangChain** to deliver tailored insights and recommendations from longitudinal health data
- Wrote **80+ Pytest unit tests**, improving code **coverage to 85%** across core backend and AI modules
- Integrated **10+ GraphQL endpoints** via Strawberry to optimize frontend-backend communication and reduce API latency
- Automated Docker builds, database migrations, and CI/CD pipelines using GitHub Actions and Render, reducing deployment time by **40%**
- Built a **multi-agent automation system with CrewAI and n8n**, enabling AI-powered bug triaging, product feedback loops, and task routing via Linear and IMAP integrations

Health Tech Data & ML Intern

Bequalize - Vestibular Disorder Patients' Companion

May 2025 – August 2025

Milan, Italy (remote)

- Built TypeScript pipeline for **processing BLE multi-sensor input** (elastometer, accelerometer, etc.) from a wearable belt
- Engineered **algorithms** for real-time respiratory and postural analysis using peak detection, FFT, and Kalman filtering
- Trained lightweight **TensorFlow Lite models** to classify breathing patterns and posture anomalies for on-device inference
- Built **intuitive React Native (Expo) interfaces** for real-time visualization of ML model outputs and longitudinal data

Undergraduate Researcher

Computational Biology and Bioinformatics Lab, NYU Abu Dhabi

March 2025 – Present

Abu Dhabi, UAE

- Lead senior thesis on **endometriosis screening** using microbiome data, **machine learning** and explainable AI (XAI)
- Conducted **literature review** on microbiome-endometriosis associations and ML applications in clinical diagnostics
- Sourced and **preprocessed 16S rRNA sequencing data** and associated clinical metadata
- Developed a **predictive ML model** to identify microbiome-based biomarkers for endometriosis

SELECTED PROJECTS

Foodify - Full-stack Web App 🍴 | [React.js](#), [Fast API](#), [Firestore DB](#), [Tailwind CSS](#), [Google Maps API](#)

- Developed a **full-stack** unbiased restaurant discovery platform, providing **100+ SMEs equal visibility**
- Built a **data pipeline** aggregating reviews for 100+ restaurants around NYU Manhattan from Google Maps and Yelp using **fuzzy-matching algorithms**
- Implemented features for users to create, share and follow tailored **'playlists' of restaurants**
- Implemented **client-side caching** that improved repeat search performance by 70%
- Increased **user engagement by 30%** by implementing a **Tinder-style swipe feature** for randomized restaurant discovery
- Deployed the **backend on Google Cloud** and the **frontend on Netlify**, ensuring **99.9% uptime** and scalable architecture

Voxy: Speech Assist App for Kids - AI Web App 🗣️ | [Next.js](#), [MongoDB](#), [Mongoose](#), [Tailwind CSS](#), [OpenAI API](#)

- Led a team of 5 to develop a **full-stack web application** that helps children with speech impairments communicate using **AI-powered Augmentative and Alternative Communication (AAC)** tool and a Text-to-Speech feature
- Integrated **AI-powered real-time relevant vocabulary suggestions**, enabling children to form sentences 3x faster
- Developed an **AI analysis system** to track child's usage, provide personalized insights, and offer an **AI chatbot** with tailored communication strategies for parents

GradSearch: Job Matching Platform - Full-stack App 📄, Demo 🎥 | [Node.js](#), [Next.js](#), [TypeScript](#), [MongoDB](#), [JWT](#), [Gemini](#)

- Developed a job matching portal allowing employers to **post entry-level** roles and jobseekers to **apply**
- Engineered **LinkedIn job scraper** pipeline with BeautifulSoup and pandas to collect data for market insights
- Implemented secure **user authentication with role-based access control** for employers and job seekers
- Built **RESTful API endpoints** with Express.js and MongoDB for user auth, job postings, and applications
- Integrated **AI-powered chatbot** tuned as a **personalized job search assistant** for job recommendations within the portal

TakeYourVitamins - Full-stack App 🍷 | [Next.js](#), [React](#), [TypeScript](#), [TailwindCSS](#)

- Developed a **dynamic search interface** and retrieval of supplement intake best practices, including interactions with other supplements and foods
- Designed an **intuitive health tracking UI** for users to log supplement intake and daily symptoms
- Implemented a **real-time alert system** to notify users of potential adverse supplement-supplement interactions

AWARDS

NYUAD Slush'D AI Hackathon – Special Recognition Award & Top 15 among 105 teams from 23 universities

NYUAD x OnDemand Hackathon - Core42 Chief AI Officer Recognition certificate for innovation and reliability

Habitat for Humanity – Volunteer Recognition Certificate (*Construction site in Ajloun, Jordan*)

Unified National Testing (UNT) – Top 0.001% of 145,000 graduates in 2021 in Kazakhstan (*140/140*)

CERTIFICATIONS

Fundamentals of Machine Learning for Healthcare - offered by Stanford University (Coursera - March 2025)

Medical Image Processing - offered by MathWorks (Coursera - March 2025)

TECHNICAL SKILLS

Programming Languages: Python, C/C++, TypeScript, JavaScript, HTML/CSS, Bash

Frameworks & Libraries: React.js, React Native, Next.js, Express.js, Flask, FastAPI, OpenAI API, Pandas, Selenium, TensorFlow, Strawberry GraphQL, Expo App

Databases: MongoDB, PostgreSQL, MySQL, Firebase, Firestore, SQLAlchemy

Cloud & DevOps Tools: Google Cloud Platform, Docker, Git, GitHub Actions, Render, Postman, Jira, n8n, CrewAI

Testing & Monitoring: Pytest, JMeter, Wireshark

Data Science & Research Tools: Weka, Jupyter, MATLAB (basic)

Other: LaTeX, Figma