

# Meirzhan Saparov

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## EDUCATION

Stetson University – Deland, FL

Expected May 2027

**Bachelor of Science in Computer Science**, GPA: 3.95/4.0

**Relevant coursework:** Data Structures & Algorithms, Java Object-Oriented Programming (OOP), Discrete Structures, Software Development Life Cycle (SDLC), Computer Organization, C++ Program Design, Database Systems

## SKILLS & CERTIFICATIONS

- **Languages:** JavaScript, TypeScript, Python, Java, HTML, CSS, C++, SQL (PostgreSQL)
- **Frameworks & Libraries:** React, Next.js, Node.js, Express.js, NumPy, Matplotlib, Scikit-learn, Pandas, TensorFlow
- **Tools:** Git, Docker, AWS, Firebase, NoSQL (MongoDB), Pinecone, Prisma ORM
- **Certifications:** [DeepLearning.AI](#) Supervised Machine Learning: Regression and Classification

## EXPERIENCE

**Headstarter - Software Engineering Fellow** | Remote

July 2024 – September 2024

- Led a team of 4 engineering fellows to design, develop, and deploy 6 AI projects using **MVC** design patterns.
- Increased data retrieval speed by 15% by integrating Pinecone vector database for semantic search, resulting in faster and more relevant user queries, which enhanced overall platform performance and User Experience (UX).
- Collaborated with engineers from Amazon, Bloomberg, and Capital One to implement **Agile** methodologies, **CI/CD** pipelines, Git, and microservice architectures.

## TECHNICAL PROJECTS

**SmartRate** | Personal Project

[GitHub](#) | [View Project](#)

- Developed a full-stack Stetson professors rating assistant using **TypeScript, React, PostgreSQL, and Next.js**.
- Enhanced user experience (UX) by reducing query complexity by 40% and cutting development time by 25% through **Prisma ORM** with **PostgreSQL** implementation.
- Created a web scraper utilizing **Python** libraries like BeautifulSoup and Selenium, to automate the extraction of 550+ Stetson professor profiles and 2000+ student reviews from Rate My Professors.
- Improved professor search accuracy by using Pinecone vector database with **OpenAI API** embeddings to develop a Retrieval-Augmented Generation (**RAG**) system, resulting in a 50% increase in relevant search results.
- Implemented a **RESTful API** using **Next.js** API routes, enabling data flow between the frontend and backend, improving application performance.

**FlashAI** | Personal Project

[GitHub](#) | [View Project](#)

- Engineered a full-stack flashcard application powered by Generative AI using **Next.js, TypeScript, and React**.
- Integrated **Stripe API** for payment processing and Clerk for secure backend and authentication.
- Reduced data latency and enabled cross-device synchronization of user-generated content by incorporating **Firebase** for real-time data storage and retrieval.
- Developed a PDF flashcard generation feature by integrating open-source **Mixtral AI**, resulting in automated flashcard generation from uploaded PDF files.
- Improved user experience (UX) and accessibility across devices by designing a UI with Material-UI and Framer Motion, leading to enhanced user engagement and satisfaction.

**PantryAI** | Personal Project

[GitHub](#) | [View Project](#)

- Designed and deployed a full-stack Pantry Management application using **JavaScript, Next.js, React, and Firebase**.
- Enabled users to add items to their pantry with a photo by implementing image recognition using **OpenAI's GPT-4 Vision API**, simplifying inventory management.
- Integrated Llama 3.1 to generate personalized recipe suggestions based on available pantry items.

## HACKATHON EXPERIENCE

**ShellHacks** | Florida International University (FIU) | Team Project

Expected September 2024

- Developed a web app for currency/stock/crypto predictions using **Python, NumPy, and Pandas** for data analysis.
- Integrated **OpenAI API** for NLP, deployed on Heroku and followed basic cybersecurity practices.