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, Object-Oriented Programming (OOP), Discrete Structures, Software Development Life Cycle (SDLC), Computer Organization, C++ Program Design, Artificial Intelligence, Database Systems

EXPERIENCE

Headstarter - Software Engineering Fellow | Remote July 2024 – September 2024

- Led a team of 4 engineering fellows to design, develop, and deploy 5 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.

PROJECTS

Fraud Detection System | ShellHacks Hackathon 2024 (FIU) | Team Project GitHub | Devpost

- Led a team of 4 developers to build and deploy a full-stack Fraud Detection System on **Heroku** within a 36-hour hackathon, coordinating frontend, backend, and **Machine Learning** tasks.
- Implemented a Flask-based backend with **Scikit-learn** integration by creating a **RESTful API** for CSV processing and fraud predictions, empowering the system with real-time **Machine Learning** capabilities.
- Boosted the fraud detection model's accuracy from 54% to 99.97% by optimizing the machine learning pipeline, processing 1,000,000 transactions with advanced **feature engineering** and a fine-tuned **Random Forest Classifier**.
- Optimized data processing using **NumPy** and **Pandas**, handling 1,000,000 transactions 40% faster and enabling real-time fraud detection.

SmartRate | Personal Project GitHub | Project

- Built a full-stack Stetson professors rating assistant using **TypeScript**, **React, PostgreSQL**, **Next.js**, and **Llama.**
- 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 535 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 | Project

- Developed 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.
- Created 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 User Interface (UI) with Material-UI and Framer Motion, leading to enhanced user engagement and satisfaction.

SKILLS & CERTIFICATIONS

- **Languages**: Python, JavaScript, TypeScript, 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, Heroku, Linux, Jupyter, Postman
- **Certifications**: DeepLearning.AI Supervised Machine Learning: Regression and Classification