

Daniel Berezovsky

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Education

Michigan State University Honors College

Bachelor of Science, Computer Science, GPA: 4.00, December 2025, East Lansing, MI.

Experience

Rocket Mortgage – Detroit, MI

Full Stack Software Engineer Intern, May 2025-August 2025

- Used **PyCaret** and **XgBoost** to create a machine learning model to determine deployment risk from pull requests that was presented to VPs.
- Worked on one of the first **MCP** servers in the company using **FastMCP (Python)** which allowed leaders to ask agents questions about their team's performance. Also worked on some of the first auth flows for remote MCP servers.
- Taught **MCP** to rest of team during a multi-hour knowledge share.
- On all 3 Rocket Internships I was on an **Agile** team where I participated in and even led a few planning meetings.
- Reduced runtime by 50% for complex **PostgreSQL** queries.
- Created widgets to expand senior leadership access on metrics such as LTTC and throughput to help leaders optimize their team and understand bottlenecks.
- Led 2 Software Engineers to debug and get a widget to production that involved using Github's REST API, **GraphQL** API, **AWS SQS** to receive events along with a deadletter queue, a **Lambda** to process the events that was written in **Python**, a backend that was written in **NestJS** (built on top of **Node.js**), and a frontend in **Angular**.
- Built an agentic chatbot inside our product that allowed users to configure and even analyze data on their dashboards using **LangChain**, decreasing time spent for a leader trying to understand how their team is doing to seconds.

Rocket Mortgage – Detroit, MI

Full Stack Software Engineer Intern, May 2024-August 2024

- Was a part of **22** pushes to production, **12** of which I was the primary contributor on from May 2024-August 2024.
- Using **Angular** and **.NET**, I created a new application that provided a better alternative to the existing solution to look at data/charts in an interactive/draggable dashboard with customizable charts/widgets.
 - o Hosted in **AWS EKS (Elastic Kubernetes Service)** and **S3** with **CircleCI** pipelines for deployment and **Terraform** for infrastructure.
 - o Used **DynamoDB** to store user configurations, and **RedShift** (which uses **PostgreSQL** drivers) for gathering data.
 - o Wrote unit tests in **Jest** for the Angular frontend and **NestJS** backend (backend was switched from **.NET** to **NestJS**).
 - o This application became the focus of my team and is currently being utilized by senior leadership.
- Created a SQL AI chatbot using **LangChain JS** that allowed users to ask questions in natural language about data.

Rocket Mortgage – Detroit, MI

Full Stack Software Engineer Intern, May 2023-August 2023

- Fixed a race condition in a **.NET** API that resulted in savings of \$200/night or \$73,000 per year by reducing outbound requests to an authentication server from 250-300 to 17.
- Received the "Rockstar" performance rating (the highest possible rating) on all aspects from my manager.
- Was the primary developer for a **.NET** web API to calculate one of the DORA metrics and worked with the CTO to determine specs for the project. This metric is currently adopted by a majority of tech teams and is being used to improve efficiency across all of Rocket Technology (thousands of team members).
- Created a frontend for a new product in **Angular** with **Tailwind CSS** and **Angular Material** that made a manual task which took a team of 3 many hours to complete into a web app that internal customers can use within seconds.

Michigan State University – East Lansing, MI

Undergraduate Learning Assistant for Data Structures and Algorithms (CSE 331), C++ (CSE 232), August 2023-May 2025

- Responsible for giving a lab opening which involves teaching topics to 50+ students.
- Run help room sessions to help students with their assignments in Python and C++.
- Created several projects for data structures and algorithms that were completed by 300+ students per semester.

AccelerateKID – Novi, MI

Coding Instructor, October 2022-October 2023

- Taught **JavaScript** for a non-profit called DAPCEP to 7-8 students and taught robotics in **Python** to 5 students.

AiGoLearning - Remote

Coding Instructor, September 2022-May 2023

- Taught **C++**, **Java**, and **Python** classes with 1-3 students; each class was once per week and judged a Hackathon.

Projects

MSU Capstone Team Amazon

Project Lead, August 2025-Present

- **Won best overall out of 30 teams** in the design day competition, which was judged by engineers and management from companies such as Amazon, Google, and Stripe.
- Leading a team of 5 others to create the Seller Agent Management Platform, an AI agent-driven service that automates routine seller tasks like responding to order inquiries and adjusting prices of items based on different strategies.
- Developed for Amazon, having weekly meetings with engineers, research scientists, and management from Amazon's Detroit and Seattle offices.
- Designed+implemented key architectural components and improved inbound event pipeline reliability using **AWS SQS** with dead-letter queues for fault tolerance.
- Added Human-in-the-Loop (HITL) intervention in **LangGraph**, enabling sellers to have control over the agent's actions.
- Used **AgentCore Gateway** to deploy **MCP** servers to access a seller's account using Amazon APIs (SP-API) and implemented authentication in this layer.
- Implemented **OAuth 2.0** flows for Slack and SP-API, saving credentials encrypted using a key which is encrypted by **AWS KMS** for defense-in-depth, allowing a user to connect their accounts.
- Implemented Slack chatbot in the **FastAPI** backend along with the inbound pipeline using **AWS SQS** for reliability and **AWS Lambda** to allow users to chat with the platform and approve or reject agent actions for HITL intervention.
- Serving as point of contact and team leader, breaking down features into tasks, leading meetings, and helping+empowering team members.
- **LangGraph, FastAPI, OAuth 2.0, AWS CDK, AWS Agentcore, AWS ECS, AWS DynamoDB, AWS Cognito, NextJS, AWS Lambda, and AWS SQS.**

MSU Artificial Intelligence Club – East Lansing, MI

Project Lead, September 2024-Present

- Leading a team of 4 to create an application for Android and iOS that is an AI-enabled personal trainer which critiques form.
- **Expo/React Native, MLKit, Firebase, Google Cloud Run, and FastAPI (Python).**
- Won best overall, most creative, and most entrepreneurial advanced project in addition to \$700 of funding with judging from university professors and software engineers.
- <https://github.com/MSU-AI/form-check>
- <https://github.com/Rep-Right/exercise-recommender>
 - o Separate **Expo/React Native** app created for a hackathon that recommends workout plans using **LangChain** and **Gemini**.

PantryIQ

Lead, April-May 2025

- Led a team of 5 to create an **Expo/React Native** app for Android and iOS which is published on the app store ([PantryIQ on the App Store](#)).
- Worked quickly to get core app functionality done in a weekend.
- Designed and developed frontend, in addition to working on and mentoring backend engineers in **FastAPI (Python)+Langchain**.
- Designed a website/progressive web app with **Framer Motion, NextJS, and TailwindCSS** (<https://www.pantryiq.co/>).
- Repos: [PantryAIApp/frontend](#) , [PantryAIApp/backend](#), [redmblue/pantryiq](#)

Ready Trader Go – Optiver

March 2023

- Responsible for creating the code in Python for a trading bot in Optiver's Ready Trader Go competition.
- Used an arbitrage strategy and also kept positions within limits that were set by Optiver.
- The bot generated \$96,573 and \$108,370 in matches against other competitors' bots.

Skills

Frontend: Angular, NextJS (React), TypeScript, TailwindCSS, JavaScript, Jest (Testing Framework for JavaScript/TypeScript), Expo (React Native), Framer Motion

Backend: .NET, C#, MySQL, PostgreSQL (Postgres), DynamoDB, Redshift, NestJS (Node.js), Sequelize ORM, Kysely, C++, Python, LangChain JS, LangGraph Python, FastAPI, OAuth 2.0

Cloud/Infrastructure: AWS EKS, ECS, S3, SQS, RDS, CDK, Cognito, Lambda, DynamoDB, Azure OpenAI Service, OpenAI API, CircleCI, Terraform, Flyway, Firebase, Github Actions, Kubernetes, Docker

Other/SDLC: Agile