

# JACK FOSTER

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## EDUCATION

### Purdue University

Bachelor of Science in Computer Science

West Lafayette, IN

Aug. 2019 – May 2023

## EMPLOYMENT

### Vanguard

**Backend Engineer** Financial Advisor Services Technology

August 2025-Current

Malvern, PA

- Leading development of an API to deliver credit quality, geographic risk, and super sector data for fixed income securities across funds, portfolios, and benchmarks; replacing legacy scripts and enabling integration with a portfolio analytics UI and AI driven insights
- Built an MCP server to connect five APIs and two databases that will enable connection to the ChatGPT marketplace

### Vanguard

Technology Leadership Program

August 2023 – August 2025

Malvern, PA

*Rotation 3: Data Engineer – Data and Analytics Engineering Team*

November 2024 – June 2025

- Migrated data transformation scripts from Amazon EMR to serverless AWS Glue, reducing cluster management overhead by 100%, cutting ETL operational costs, and speeding job start-up times; additionally built a migration tool that automated script conversion and accelerated the overall migration timeline
- Configured AWS IAM roles and policies to enable data engineers to access and use AWS Athena notebooks for interactive data exploration and analysis
- Acted as primary production support during two critical support rotations, rapidly diagnosing and resolving incidents, and proactively communicating status and resolution steps to consumers to minimize downtime and maintain stakeholder confidence
- Oversaw the annual intern hackathon: collaborated with key stakeholders to develop five strategic, business-critical project proposals; mentored 12 co-leads reporting to me; and set clear objectives and success metrics for 40 technology interns

*Rotation 2: Application Engineer – Personal Investor, Cash Movement Team*

April 2024 – November 2025

- Migrated 75 percent of team's routing stacks to a multi-region cloud architecture, deploying and configuring new routing environments and decommissioning legacy ECS instances
- Developed an Angular router guard from Figma designs to secure the cash movement tool from bad actors
- Diagnosed and resolved a critical production incident blocking clients from electronic withdrawals after address changes
- Integrated the cash movement application with the Banking Business API and onboarded Cash Movement application backend with an API to automate email delivery of tax-withholding notices

*Rotation 1: Application Engineer – Chief Technology Office, Vanguard Product Explorer*

August 2023 – April 2024

- Implemented an Angular-powered NPS survey, gathering 600+ responses to drive UX improvements
- Led migration of four business-critical applications to Active-Active architecture, improving availability and latency
- Empowered IT staff with an internal insights tool for data-driven decisions
- Engineered a Grafana dashboard for 500+ daily PostgreSQL queries, enabling real-time strategic insights
- Automated 4,500 biweekly emails via AWS Lambda and SNS cron scheduling

*Simplified Onboarding Capstone Project*

June 2025 – July 2025

- Developed proof of concept integrations with third-party identity verification vendors to simplify Vanguard's client onboarding workflow, reducing manual data entry
- Presented the proof of concept onboarding integrations to Vanguard's CIO, CTO, and Head of Personal Investor

### Vanguard

Application Developer Intern

June 2022 – July 2022

Malvern, PA

- Worked in Advisor Services to develop a web application enabling 1,000+ advisors to set goals for 80,000+ clients

- Developed an internal feature with Angular for Vanguard advisors to add new outside accounts to the Goals Web Application
- Designed an endpoint in Java which enables personal advisors to delete manual spouses
- Created a REST api for cryptocurrency data and added automatic updates to a cryptocurrency tracker which was a project built with Vanguard interns

## Liberty Mutual

Software Engineer Intern

May 2021 – August 2021

Indianapolis, IN

- Implemented business requests for new features for the Business Lines ClaimsCenter
- Won first place at the intern hackathon with AWS Lambda functions for a carpool mobile app
- Demoed my work to over forty engineers and business people twice at the Claims department biweekly meetings

## RELEVANT EXPERIENCE

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### Cummins Inc.

Data Mine: Research Assistant

August 2019 – May 2020

West Lafayette, IN

- Analyzed large data sets with Python and SQL to increase ridership on a bus line by 25%
- Communicated effectively with mentors to accomplish tasks in a time effective manner
- Led a team of 6 multidisciplinary engineers to improve the LeaperX transit system

## TECHNICAL SKILLS

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**Languages and Frameworks:** Python, PostgreSQL, Angular, Java, C, JavaScript, SQL

**Certification:** AWS Certified Cloud Practitioner