

Patrick Demers

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Education

Iowa State University, *B.S. Software Engineering, GPA: 4.00*

08/2020 – 12/2023 | Ames, IA

- Graduating in December 2023 as Software Engineering student marshal
- Data Science Club Vice President and Competitive Programming Club Member

Professional Experience

Tesla, *Software Engineer Intern*

05/2023 – present | Palo Alto, CA

- Improved query response time by over 95% through the successful migration of audit log storage from a database to a big data system, effectively leveraging Kafka for data streaming.
- Contributed to launching third-party app support which allows companies to integrate directly with Tesla through OAuth. Engineered a documentation generation pipeline for Fleet API. [Click to view the docs](#)
- Revamped metrics handling in fleet-telemetry, an open source server that allows businesses to stream data directly from Tesla vehicles. [Click to view pull request](#).
- Worked to implement bug fixes and new features on existing React, Go, and Ruby applications.

AT&T, *Software Engineer Intern*

06/2022 – 08/2022 | Los Angeles, CA

- Collaborated with a team to implement Zero Trust Network Access for corporate VPN connections.
- Integrated with Okta to authenticate and authorize users before permitting network-level application access.
- Engineered an Internet plan finder to help prospective customers identify the option best suited for their needs.

NASA, *Data Science Intern*

08/2021 – 05/2022 | Remote

- Designed a system which reduced noise in training models by 65%, enabling test operators to remove invalid data and identify key points in observed data.
- Worked with electric propulsion researchers to analyze the relationship between system inputs and the observed real-world results.

Skills

Programming Languages/Frameworks

JavaScript/TypeScript, Go, Ruby, C/C++, Python, SQL
React.js, React Native, Express.js, Jest

Tools

Terraform, Docker, Kubernetes, various CI/CD tools,
Kafka, Redis, Prometheus, Grafana

Projects

Ames Ride, *Open Source Project*

08/2022 – present

- Created a React Native app to track Ames, IA resident's bus location and arrival times.
- Downloaded by 5,000+ users, receives 10,000+ daily sessions, and has an average rating of 4.9 stars.
- Engineered a Node.js backend with a modular and extensible software architecture which pushes real-time bus location and arrival information to the front-end.
- Leveraged Grafana to provide observability. Dashboards showing KPIs and access to application logs makes identifying and fixing issues efficient.
- View the project: <https://github.com/patrickdemers6/AmesRide>

Digital Billboards, *Holy Cross Parish*

06/2021 – 07/2021

- Deployed and managed a remote fleet of IoT devices which display up-to-date information on connected TVs.
- Architected a backend on Google Cloud which converts a Google Slideshow into graphics that can be displayed on the deployed Raspberry Pi devices.
- Leveraged Terraform to define and manage infrastructure resources as code, enabling repeatable and consistent deployments across multiple environments.

Open Source Contributions

- Implemented a variety of bug fixes and improvements in Infinity-for-Reddit. [Click here to see my impact](#).
- Learn more about my programming adventures on GitHub: <https://github.com/patrickdemers6>