

# Patrick Demers

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## Education

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**Iowa State University**, *B.S. Software Engineering, GPA: 4.00* 12/2023 | Ames, IA  
Data Science Club Vice President. Member of Be the Match On Campus and Digital Women. SE Student Ambassador.

## Professional Experience

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**Demers Tech**, *Sole Proprietor* 08/2016 – present | Sioux City, IA

- Increased clientele of a driver's education company by **224%** in two years by creating a strong web presence.
- Created **animated videos** encouraging donations to a school system. The federal donation limit was reached in three days.
- Developed an antique car-sale website which sold over a **quarter million dollars** worth of inventory. Built using **React** and a **content management system**.
- Established infrastructure to allow a meteorologist to broadcast live from home during COVID-19 using **OBS** and **LiveU**.

**AT&T**, *Software Engineer Intern* 06/2022 – 08/2022 | Los Angeles, CA

- Implemented **Zero Trust Network Access** for users connected to the corporate network using **OpenVPN** and **OPNsense**.
- Integrated with **Okta** to authenticate and authorize users before permitting network-level application access.
- Created a Windows and Linux application which facilitates the **VPN connection** and **Okta authentication** on user devices.
- Engineered a system to gather information about prospective customers and recommend internet services to them.

**NASA**, *Data Science Intern* 08/2021 – 05/2022 | Remote

- Created **linear regression models** to investigate the relationship between thruster operating conditions and behavior.
- Performed **exploratory data analysis** on hall thruster performance data to draw conclusions about key data points.
- Modified existing data analysis code to improve output accuracy and fault tolerance.
- Documented details of plasma measurement devices to ensure future members of the project have access to a comprehensive knowledge repository.

**Tyson Foods**, *Software Engineer Intern* 08/2018 – 12/2021 | Dakota City, NE

- Developed a consumer sentiment application using **React** and **Express.js**. Deployed using **Docker**, **Kubernetes**, **Terraform**, and **Jenkins**. The application allowed executives to make informed decisions based on real-time information.
- Designed **CI/CD pipelines** to automatically test and deploy **REST APIs** and **React** applications to **Google Cloud Platform**.
- Established **unit tests** to ensure code quality and functionality using **JavaScript** testing framework, **Jest**.
- Improved **Agile scrum team** efficiency by writing high quality, ready to work **user stories**.
- Performed **code reviews** for programming changes and reviewed application code prior to **production deployment**.

## Skills

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### Google Cloud Platform

*BigQuery, Cloud Functions, Cloud Scheduler, Cloud Pub/Sub, Cloud Firestore, Cloud Storage, Terraform, CI/CD*

### Programming Languages/Frameworks

*JavaScript, Python, Java, C, C++, Python, SQL  
Node.js, React.js, Express.js, Gatsby.js, Jest, Springboot*

## Projects

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**Monikers**, *School Project* 01/2022 – 05/2022

- Implemented an **Android application** which allowed multiple users to interactively play a game together.
- Focused on building a **Spring Boot** backend which managed game state and connected game players using **websockets**.
- Stored user and game details in a **SQL database** and minimized response time by storing frequently accessed data in **Redis**.

**Digital Billboards**, *Holy Cross Parish* 06/2021 – 07/2021

- Reduced employee labor costs and improved the accuracy of information displayed on TVs at multiple parish locations.
- Developed a **Cloud Function** that converts a Google Slides presentation to images and uploads to **Google Cloud Storage**.
- Deployed **Docker containers** to 5 Raspberry Pi devices using Balena Cloud's **fleet management** service.

**Invoice Manager**, *Five-Star Awards & More* 05/2019 – 06/2020

- Transformed a Microsoft Excel invoice lookup system into a synchronized, user-friendly **React web-application**.
- Improved employee experience and reduced customer wait time by implementing **real-time** invoice search functionality using **Algolia search**.

## Open Source Contributions

- Started an open source **React Native** application to show real time bus locations in Ames, IA. **Deployed** to the Play Store.
- Contributed to open source projects including Firefox Browser, Signal Desktop, Infinity for Reddit, and Pandas Profiler.
- Languages used include **JavaScript**, **Python**, and **Java**.