

# Joseph Laurent Krueger

## Backend Engineer

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### 🎓 EDUCATION

#### University of Washington (Seattle campus)

B.S. Computer Science, Minor in Business

President and Co-founder of Clearvote, Algorithmic Trading Club, Salsa Club, UW Farm

December 2024

GPA: 3.70/4.0

### 💻 EXPERIENCE

#### Clean Power Research, Software Engineering Intern 🔗

June 2024 — October 2024 | Bellevue, WA

- Designed and implemented a scalable, fault-tolerant, **.NET** app that inserts charts into PDFs via dependency injected data
- Extended existing orchestration infrastructure with **AWS Lambda** to connect with a containerized **Node.JS** app
- Designed new charts generated for on-demand reports in under 5 seconds used by HVAC contractors across the country
- Wrote technical documentation and automated tests for debugging and monitoring to a production-ready coding standard

#### Clearvote, Co-founder 🔗

August 2023 — Present | Seattle, WA

- Founded a student-run non-profit developing a cross-functional, open-source **Next.js** application deployed through AWS
- Deployed a throttled, high availability **RESTful API** supporting over **over 3000 users** during a critical usage period
- Setup a **DynamoDB** NoSQL database leveraging web-scraped candidate data enriched with finetuned GPT-4o metrics and state geodata boundaries to provide localized election information across the state of Washington
- Leading prioritization of dependency management, user research, security, cloud architecture and code quality

#### MCG Health, Software Engineering Intern 🔗

June 2023 — September 2023 | Seattle, WA

- Worked on the CareWebQI Team to overhaul an In-patient diagnostic and perscription tool used by **2,800 hospitals**
- Migrated from a deprecated version of **Angular** to work with a **.NET Core** backend
- Created a CI/CD pipeline in **Azure** for automated testing and deployment
- Added auto-completion and code lookup support for **70,000 medical care guideline codes**
- Applied agile project management principles in cross-team sprint planning sessions with **Confluence** and **JIRA**

#### The University of Washington, Teaching Assistant 🔗

January 2023 — June 2023 | Seattle, WA

### 📁 PROJECTS

#### Financial Portfolio Rebalancer, Full Stack Application 🔗

April 2024 — Present

- *Trade Dashboard*: Designed a responsive **Flutter** application for stock trades, prioritizing accessibility and UX design
- *Auto Trader*: Developed a **C++** Technical Analysis application with data caching to enable **sub-5-second stock speculations** and **>25% YOY returns** using an estimated moving average algorithm
- *Time Series Forecast*: Designing a **Kubernetes** cluster integrated with **Prometheus** and **Grafana** to ingest preprocessed stock data and train a supervised regression machine learning model for stock price time series forecasting

#### DubHacks Hackathon, illustrAltor — Winner 🔗

October 2022

### 🛠 SKILLS

<b>System Architecture:</b>	API and service development, x86-64, ARM, Distributed system design, OOP Design Patterns
<b>Database Systems:</b>	ER Modeling, Relational Databases (SQLite, MySQL), NoSQL (DynamoDB)
<b>Languages:</b>	Java, C++, C#, TypeScript, Python, Dart, C, R
<b>Security:</b>	RSA Encryption, Cross-Site Scripting, SQL Injection, IAM Resource Management
<b>DevOps:</b>	Kubernetes, Docker, CI/CD (Azure), Shell scripting (PowerShell, Bash), IaC (CloudFormation)
<b>Testing:</b>	Monitoring (Google Analytics, CloudWatch), Testing (Unit, Integration), Test-Driven Development
<b>Cloud Infrastructure:</b>	AWS (CDK, Lambda, DynamoDB, EC2, S3, RDB, Amplify), Google Cloud Platform, Azure