Trevor J. Yao

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Language and tool agnostic engineer with proven track record of solving problems efficiently and accurately. Loves to take on new and exciting challenges, always going above and beyond. Excels at interpersonal communication and time management.

Experience

Autonomic (now Ford Model e) Palo Alto, California, USA (Remote)   Jan 2023 - April 2023
Software Engineering Intern (Message Connectivity)
- Major contributor to the gateway of the Transport Mobility Cloud (TMC), enabling reliable, real-time IoT connectivity of over 9 million Ford and Volkswagen vehicles worldwide.
- Strengthened reliability of team services by implementing new algorithms for MQTT client selection and automated spammy device blocking, improving command delivery success rate to 99.997%.
- Supported and contributed to distributed network of concurrent Java/Kotlin Kafka microservices, processing over 10 billion messages daily, running on Kubernetes clusters hosted on AWS and GCP.

Autonomic (now Ford Model e) Toronto, Ontario, Canada (Remote)   May 2022 - Aug 2022
DevOps Tools Engineering Intern
- Provided critical production support of in-house designed CI/CD tools, including GitOps-based Kubernetes controllers and scalable automation pipeline builder.
- Created interpreter for Tekton CI/CD platform, enabling developers to define pipelines concisely, reducing the average pipeline declaration by over 750 lines.
- Assembled go and python CLI tools to automate common requests and maintain CI/CD infrastructure.
- Maintained infrastructure-as-code terraform modules for company infrastructure configurations.

Sun Life Financial Waterloo, Ontario, Canada   May 2021 - Aug 2021
Data Engineer Co-op
- Developed custom realtime audio ELT pipeline using concurrent Python microservices, handling over 3 TB/month of data, facilitated via Kafka & S3.
- Optimised preexisting Spark & Sagemaker audio transcription ML models, reducing processing times by 35%.

Projects

Crunchy Containers Suite   Jun 2021
Open-source Containers for Orchestrating PostgreSQL on Kubernetes
- Adapted Postgres Docker image to be runnable as a Kubernetes StatefulSet.

smbprotocol   Jun 2021
Open-source Python SMBv2/v3 Client
- Solved fatal race condition occurring during SMB socket shutdown.

vm   Dec 2020
Lightweight vim-like Text Editor
- vim alternative with 60% reduction in memory usage. Written only in vanilla C++ with self-written libraries, designed for portable use on any low powered *NIX embedded systems.
- Supports all common vim commands, with C/C++ syntax highlighting, unlimited undo, nested multipliers and movements, and text searching all supported.

Education

University of Waterloo Waterloo, Ontario, Canada   Sep 2019 - Dec 2023
Honours Bachelor of Computer Science; Minor in Pure Mathematics (4A Term)
- Dean's Honours List - Faculty of Mathematics; 88% Cumulatative Average (4.0 GPA).

Skills

Languages: Go • C/C++ • Java • Kotlin • Python • Scala • C# • JS • SQL • Bash
Tools: AWS • GCP • Kubernetes • Docker • JDK • Kafka • Spark
Other: Distributed Systems • Concurrency • IoT • Operating Systems • Embedded Systems • Compiler Design