JEFF HUANG

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Education:

Carnegie Mellon University — Pittsburgh, PA
B.S. Electrical and Computer Engineering — Aug 2016 - May 2020
Minor in Computer Science

Experience:

MotherDuck — Seattle, WA
Software Engineer — May 2023 – Aug 2024

- MotherDuck is a cloud data warehouse based on DuckDB. As part of the Platform team, worked on runtime and management of customer instances of DuckDB in the cloud
- Led the development, design, and maintenance of Entity Service, MotherDuck's highly-available service for state management. Expanded support of customer secrets to support multiple clouds (AWS, GCP, Azure) and migrated existing customer's secrets without downtime. Improved latency via caching and query optimizations, observability, reliability, and overall code quality of the service
- Developed the heavily requested feature of Organizations, moving MotherDuck to a true collaborative data warehouse experience. This included support for invitations, granular database sharing and access control, enabling billing, and led the migration of existing users to Organizations without downtime
- Shipped and maintained support for MotherDuck's Windows and Linux ARM extensions
- Co-authored "MotherDuck: DuckDB in the cloud and in the client" paper in CIDR 2024

SingleStore — Seattle, WA
Software Engineer — Aug 2020 – May 2023

- SingleStore (formerly known as MemSQL) is a distributed relational database. As part of the Storage and Ingest team, worked on problems like distributed clustering, data consistency and integrity, and real-time ingestion of data.
- Developed Workspaces, an improvement of SingleStore's distributed clustering architecture that allows for multiple compute sessions to operate on shared data with granular scalability and isolation of compute. Was a key feature that increased customer adoption with deals worth millions of dollars
- Led the development, design, and maintenance of Backup and Restore. Increased full and incremental backup usability and speed, planned future work, and assisted the support team in resolving customer issues
- Closely worked with the Product and Sales team in the development of customer requested features and usability improvements for Pipelines, SingleStore's feature for real time streaming data ingest. These include a system of garbage collection for Pipelines metadata that maintained high throughput and exactly-once semantics, reducing database memory usage by up to 90%
- Contributed actively to hiring and sustained growth, interviewing candidates of all levels, and mentoring interns and new engineers

Skills:

Programming Languages: C, C++, Python, JavaScript, TypeScript, GoLang, Java, SQL
Tools: Git, Linux, Docker, Kubernetes, AWS, Azure, GCP, gRPC, Protobuf, Kafka, OpenTelemetry

Projects:

Embedded ARM Kernel

- Implemented a real-time multithreaded kernel for Raspberry Pi that provided user-space isolation, interrupts, task scheduling, synchronization, and loadable kernel modules, allowing for the interaction with external hardware devices and network communication