TRISTAN PARTIN

Software Engineer (Postgres Hacker) @ Neon

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EXPERIENCE

Software Engineer (Postgres Hacker)

Neon

May 2023 – Present — Austin, Texas (remote)

- Participating in upstream Postgres development.
- Migrating Postgres from a multi-process model to a multi-threaded model.
- Scaffolding out the final pieces of the Postgres Meson build.
- Adding support to Neon for new Postgres releases.

Staff Software Engineer

Micron Technology

August 2020 – February 2023 — Austin, Texas (hybrid)

- Maintained the Heterogeneous-Memory Storage Engine (HSE)
- Integrated HSE with MongoDB v3.4 as an alternative to WiredTiger
- Benchmarked HSE against popular storage engines like RocksDB and WiredTiger and found improvements in various workloads
- Designed Python and Java language bindings to wrap the HSE C API
- Co-authored a patent filing for a new on-media data structure

Software Developer

Expero

July 2019 – August 2020 — West Lake Hills, Texas

- Abstracted a collection of Java/TypeScript/Node.js microservices to be able to use both DataStax Enterprise and open source equivalents like JanusGraph, Cassandra, and Elasticsearch
- Developed a graph database benchmarking suite using CosmosDB, TigerGraph, DataStax Enterprise, and Neo4j
- Migrated data from a legacy FileMaker system to AWS RDS

Software Development Intern

Expero

September 2017 – May 2019 — College Station, Texas

- Designed a graph database modeling course curriculum
- Developed a daily time reporting tool for company leads to track developer time charges using AWS Lambda and Go
- Created a microservice using AWS S3 and Java that performs dynamic PDF generation
- Built a proof of concept ASP.NET Core application using Microsoft's CosmosDB Gremlin API

Software Engineering Intern

NI (National Instruments)

May 2018 – August 2018 — Austin, Texas

- Worked as a driver developer on the XNET team, which develops solutions for automotive testing
- Implemented time synchronization between data acquisition modules in order to better correlate collected data using C++ in both the Windows kernel and userspace drivers

EDUCATION

Bachelor of Science
Computer Engineering

Texas A&M University

May 2019 — College Station, Texas

SKILLS

C | C++ | Go | Python | Java | Linux | Git | Build Sytems | Databases | Storage Engines | Systems Software | Open Source

PROJECTS

Heterogeneous-Memory Storage Engine

hse-project/hse

- A fast embeddable key-value store designed for SSDs and persistent memory, optimizing performance and endurance by orchestrating data placement across DRAM and multiple classes of solid-state storage
- Overcomes HDD-based architectures to improve throughput up to 6 times, latency up to 11 times and SSD endurance by 7 times when compared to Meta's RocksDB

HSE Python Bindings

hse-project/hse-python

- Python language bindings for the HSE C API

HSE Java Bindings

hse-project/hse-java

- Java language bindings for the HSE C API

Various Open-Source Contributions

- Includes organizations and technologies like Meson, GNOME, Electron, Terraform, etc.

AWARDS/CERTS

Apache Cassandra 3.x Developer Associate

DataStax — 2020

Eagle Scout Award

Boy Scouts of America — 2014