

Timothy Elgersma

Software Developer

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Languages

C • C++ • Java • Kotlin • \LaTeX • Typescript • Python • PostgreSQL

Experience

September 2022 – Present

Yugabyte | Senior Software Engineer

C, C++, PostgreSQL, Python

- Designed and implemented remote filter pushdown between major Postgres versions, enabling fully online major version upgrades as part of a broader team effort
- Prototyped and delivered support for distributed bitmap scans, yielding up to 1000x speedups on enterprise customer queries in production
- Collaborated on the development of login profiles, improving security by enforcing login attempt limits
- Refactored and redesigned memory systems, decreasing query response size by 25%, reducing query latency by up to 60% for large-column workloads, and cutting memory usage by 60-95% on large writes
- Implemented graceful recovery to mitigate the impact of the kernel's Out of Memory killer
- Resolved multiple correctness issues in the query execution engine
- Worked with customers to resolve improve modelling issues to maximize distributed SQL performance

September 2021 – December 2021

Yugabyte | Software Engineer Intern

C, C++, PostgreSQL

- Enabled row-level geo-partitioning across clouds, regions, and zones by designing and implementing tablespaces for tablegroups (collections of colocated tables)
- Updated YSQL grammar, cluster load balancer, and YSQL dumps to handle new tablespace features

May 2021 – August 2021

Amazon | Software Developer Engineer Intern

Java, Kotlin

- Decreased latency by 15% and operational complexity for two million requests per day by designing and implementing a new API bridge that uses client configurable "profiles"
- Led design discussions with a variety of stakeholders to ensure the highest standards for scalability, client customization, and enforcing invariants

January 2020 – April 2020

Faire | Backend Developer Intern

Kotlin, PostgreSQL

- Increased Faire's contribution margin by 180bps by implementing payment assistance plans and allowing the risk team to make timely, informed decisions by surfacing relevant customer and Plaid data
- Decreased customer support ticket count by 9% through heuristics to auto-handle common requests

Projects

April 2025 – Present

Soul Strength Network

Next.js, Typescript, MongoDB

- Collaborated with a team of 3 to develop a web application for a therapist connection platform
- Designed and built new endpoints to allow users to find therapists from a curated list and therapists to manage their clients

January 2019 – Present

Resume Creator

Python, \LaTeX

- Implemented a Python script and \LaTeX template to generate a resume from YAML

Education

September 2017 – April 2022

University of Waterloo | Bachelor of Computer Science