

Timothy Elgersma

Senior Software Developer

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Languages

C • C++ • Java • Kotlin • L^AT_EX • PostgreSQL • Python • Typescript

Experience

September 2022 – Present

Yugabyte | Senior Software Engineer

C, C++, PostgreSQL, Python

- Independently 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 core workflows in production
- Collaborated on the development of login profiles, improving security by enforcing login attempt limits
- Refactored column target rules, decreasing query response size by 25%
- Optimized memory tracking calls, reducing latencies by up to 60% for queries with large columns
- Redesigned memory allocation strategy, cutting memory usage by 60-95% on large writes
- Led the implementation of 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

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

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

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

- Co-developed a therapist connection web platform in a team of 3 using Typescript and Next.js
- Designed and implemented RESTful endpoints to support therapist discovery and client management

January 2019 – Present

Resume Creator

Python, L^AT_EX

- Implemented a Python script and L^AT_EX template to generate a resume from YAML

Education

September 2017 – April 2022

University of Waterloo | Bachelor of Computer Science