SWEBERT CORREA

linkedin.com/in/correaswebert · correaswebert@gatech.edu · (470) 685-1680 · github.com/correaswebert

Education

Georgia Institute of Technology, Atlanta — Aug 2024 - May 2026
Master of Science in Computer Science | Graduate Teaching Assistant — GPA: 4.0/4.0

College of Engineering, Pune — Aug 2018 - May 2022
Bachelor of Technology in Computer Engineering | Minor in Financial Engineering — GPA: 9.05/10.0

Coursework: Advanced Operating Systems, Database Implementation, Distributed Computing, Networks

Skills

Languages: C, C++, Python, CUDA, Java, Kotlin, Go (Golang), JavaScript, Bash, SQL

Technologies: Kubernetes, Docker, PostgreSQL, DynamoDB, Coral, GDB, Strace, Nsight Git, Jenkins

Experience

AMAZON — Seattle, WA
Software Development Engineer Intern | Kotlin, Dagger, Coral, Fargate — May 2025 - Aug 2025

- Engineered a real-time notification service serving 150+ TPS for Alexa+ that enabled AI-guided device setup
- Integrated **adaptive push/pull notification delivery** logic boosting render rate from 3.84% to over 50%
- Saved 2 weeks (5× reduction in time) for each on-boarded service to send push, in-app and voice notifications

RAKUTEN (ROBIN.IO) — Pune, India
Software Engineer | C, Python, Kubernetes, PostgreSQL — Jun 2022 - Jul 2024

- Built an in-house object storage solution delivering ∼ 70% feature parity with AWS S3
- Designed **disk rebuild** subsystem for data recovery and built **disk-sets** to scan 4PB across 250+ disks
- Developed asynchronous event-based HTTP **streaming processor** for **erasure coding** in API gateway
- Implemented **server-side encryption** using the customer-provided keys across active-active replicated sites
- Mentored an intern in creating a Grafana dashboard for real-time cluster health monitoring

Research Experience

Nexus Supercomputer Project *with* Prof. Suresh Marru — Atlanta, GA
Research Assistant | C/C++, CUDA, Linux Kernel, Flamegraph — Aug 2025 - May 2026

- Designing a high-performance distributed file system for the supercomputer in collaboration with the NCSA
- Working on FUSE optimizations using passthrough and io_uring for attachable object storage backends
- Exploring RDMA, InfiniBand, and GPUDirect for zero-copy data transfer serving 10PB of NVMe storage

Projects

Xen Hypervisor Credit Scheduler | Operating Systems, C — Georgia Tech, Fall '25

- Implemented type-2 hosted hypervisor leveraging Linux signals for context switching and thread-local storage
- Built M:N user-level threading library with a credit-based scheduler supporting load balancing across vCPUs

Deadlock Detection and Resolution | Databases, C++, Valgrind — Georgia Tech, Spring '25

- Implemented two-phase locking mechanism for BuzzDB to ensure transaction isolation and atomicity
- Designed deadlock detection using wait-for graph and resolved it based on transaction age and starvation

MIT xv6 Ext2 File System | Operating Systems, C, Qemu — COEP, Spring '21

- Extended xv6 with Ext2 file system, implementing buffer cache management, tree-based searching and logging
- Built a Virtual File System layer with additional file-system APIs and required corresponding syscalls