

# MITCHELL GRAY

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## Education

### Georgia Tech, Atlanta, GA

*Master's of Science, Computer Science*

Jan 2025 – Aug 2026 (Part-Time)

GPA: 4.0; Artificial Intelligence

### Cornell University, Ithaca, NY

*Bachelor's of Science, Computer Science*

Aug 2020 – May 2024

*Minor, Operations Research Information Engineering*

*Distributed Systems*

*30 Extra Graduate-Level Credits*

**Knowledge Domain:** Distributed Systems · Systems Programming · Databases · Cloud · AI · Machine Learning

## Technical Skills

**Languages:** C · C++ · Python · PL/SQL · Java · Rust

**Software & Tools:** Git · NumPy · Pandas · Poetry · CMake · CI/CD · Docker · Kubernetes · GCP · Azure · AWS · REST

## Relevant Work Experience

### Oracle

Redwood City, CA

*Software Engineer II* | C, PL/SQL, Raft, Java, OracleDB, OCI

Sept 2025 – Present

- Working on Raft Replication in the Oracle Globally Distributed Database for Shard Replication · Writing fault-tolerant and scalable Distributed Systems code in **C**, **Java**, and **PL/SQL**.
- Designed and implemented a generic shard-operations replication framework that consolidated multiple ad-hoc code paths into a single framework · Improved maintainability, scalability, and ease of creating new operations with fewer defects.
- Provided technical mentorship and guided the team's newest engineer · Accelerated onboarding and knowledge transfer.

*Software Engineer I*

June 2024 – Sept 2025

- Engineered a fault-tolerant replica replication feature on Oracle Cloud Infrastructure · Enforced placement of Raft replicas on separate server racks to eliminate single-rack replication-unit failures and improve database availability.
- Refactored over 1,200 lines of Sharding serialization code to eliminate a critical data-loss defect · Designed robust de/serialization pipelines and multi-format conversion logic that greatly improved data integrity and system reliability.
- Optimized multiple replica-to-replica data transfer operations · Achieved a **700%** performance improvement without workload and **250%** improvement under active workloads after optimization code changes.
- Resolved critical recoverability issue in replica-to-replica data transfer operations by ensuring complete transfer of essential recovery-related tables and data between replicas · Improved reliability and system integrity during failure.
- Implemented comprehensive Pluggable DBs lifecycle management · Enabled seamless Drop, Unplug, and Plug operations of PDBs to streamline maintenance for Raft replicas using Oracle's multi-tenant container architecture.
- Enhanced error-handling mechanisms throughout the codebase · Improved error handling reliability and diagnosability.

### Gecko Robotics

Pittsburgh, PA

*Software Engineer Intern* | C++, Python, C, CMake, GCP, CI/CD

May 2023 – Aug 2023

- Worked on the Robot Controls team · Wrote code for an asynchronous distributed system in **C++**, **Python**, and **C**.
- Revamped Robot & DAQ emulators · Implemented communications protocol and Client/Server TCP networking.
- Replaced VS build-system with **CMake** · Added calibration support to emulators · Integrated **CI/CD** and **Poetry**.

### CMU-Software Engineering Institute

Pittsburgh, PA

*DevOps Engineer Intern* | Python, Rust, CI/CD, Docker, Kubernetes

May 2022 – May 2023

- Developed **Python**, **Rust**, and **Bash** code on various NDA projects · Updated and created **CI/CD** pipelines · Created GitLab **REST API** data visualizations for clients · Used ArgoCD and Helm to deploy AWS EKS cluster.
- Improved efficiency of the company by using **Python**, **Neo4j**, NeoDash, Confluence Documents, and the PageRank algorithm to create scripts, metrics, and long-term documentation that are now used throughout the company.

## Relevant Academic Work Experience

### Georgia Tech & Cornell University

Atlanta, Georgia & Ithaca, NY

*Graduate Teaching Assistant* | Python, NumPy, SQL, Java

Aug 2022 – Present

- Received the **Course Staff Exceptional Service Award** · Taught Graduate AI, Databases, OOP, and Physics.

### Cornell Database Group

Ithaca, NY

*Database Research Intern* | Java, AWS

Jan 2022 – May 2024

- Published and presented paper at **VLDB 2023** combining **Reinforcement Learning** and Worst-Case Optimal Joins.
- Worked on upgrading query engine to a **Distributed Architecture** · Created dynamic statistics & RL visualizations.