

GIANNI COTTONE

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EDUCATION

University at Buffalo - SUNY

Bachelor of Science (BS), Computer Science

August 2022 - May 2025

GPA: 3.2

- Algorithms and Complexity, Distributed Systems, Software Engineering Concepts, Systems Programming, Web Applications

SKILLS

Programming Languages: Go, Java, Kotlin, Python

Frontend: Next.js, React.js, iOS/Swift

Backend: Spring Boot, Flask, REST APIs

Databases: MySQL, MongoDB

Tools: Docker, Git, Codex, Claude Code

PROJECTS

Phone Eats First (Backend API with Native iOS Client) - In Progress

Java / Spring Boot, MySQL, Swift

- Applying test-driven development (TDD) to validate service-layer behavior and prevent regressions
- Implementing RESTful endpoints to coordinate photo upload and meal creation, ensuring consistent request validation and predictable API behavior
- Separating service and storage layers to isolate business logic from persistence and support future storage integration (e.g., S3)
- Designing relational schemas for meals and user relationships to enforce data integrity and support efficient queries
- Building a native iOS client in Swift to interface with backend endpoints for end-to-end functionality

Raft Implementation (Fault-Tolerant Distributed Consensus System)

Go

- Implemented a fault-tolerant distributed consensus system supporting leader election and replicated state across a configurable cluster
- Modeled concurrent node state transitions using Go goroutines and channels to ensure safe and deterministic behavior
- Built AppendEntries and RequestVote RPC handlers with Protocol Buffers for reliable inter-node communication under network variability
- Developed log replication and commit mechanisms with consistency checks to maintain correctness during node failures and partitions
- Validated distributed behavior through simulated node failures and message delays to ensure system correctness

Promulgate (Full-Stack Grievance Sharing Platform)

Kotlin, PHP, MySQL

- Implemented backend services for a post and comment platform, supporting user authentication and persistent content storage
- Designed relational database schemas for users, posts, and comments to ensure data integrity and efficient querying
- Collaborated within a 4-person Agile team, contributing to iterative development and feature delivery

WORK EXPERIENCE

Ace Hardware

Sales Associate

August 2019 - Present

East Islip, NY, USA

- Assisted customers in selecting plumbing, electrical, and hardware solutions, translating technical requirements into practical recommendations

Tim Hortons

Team Member

October 2023 - May 2025

Amherst, NY

- Balanced 15–20 hrs/week of work unloading supply shipments and operating register while completing a full-time computer science degree