

Sooseok (Chris) Kim

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EDUCATION

[University at Buffalo](#), The State University of New York

B.S in Computer Science

August 2024 – June 2026

Major GPA: 3.4 / 4.0

Relevant Coursework: Data Structures, Operating Systems, Modern Network Concepts, Distributed Systems, Software Engineering, Web Applications, Algorithm Analysis & Design, Data Models & Query Languages

SKILLS

Programming Languages	C, Golang, Python, JavaScript, TypeScript
Databases	MongoDB, MySQL, PostgreSQL, SQLite
Networking	TCP/UDP, HTTP, WebSocket, WebRTC
Cloud & Infrastructure	Linux, Docker, AWS, DigitalOcean Droplet, Cloudflare Tunnel/Worker, Nginx, Apache, Caddy
Software Development	React, Flask, Django, Electron, OOP, System Design, REST APIs, Agile, OAuth 2.0, Git

EXPERIENCE

[Teaching Assistant](#) | CSE 341 Computer Organization

January 2025 – May 2025

- Led weekly recitations for ~**30 students**, reinforcing course concepts through problem-solving and technical explanations.

[Customer Solutions Manager Intern](#) | Amazon Web Services

May 2022 – August 2022

AWS Certified Solutions Architect – Associate

December 2021

- Coordinated with representatives across five APAC markets to collect and analyze Migration Readiness Assessment (MRA) reports, diagnosing two factors behind **contract-signing rates**: depth of MRA walkthroughs with clients and consistency of report structure.
- Designed an Excel-based **automated diagnostic tool** to execute gap analysis on client MRA reports, accelerating next-step action plans and driving more robust and consistent usage of MRAs across regional teams.

PROJECTS

[Homelab Infrastructure](#) | Ubuntu Server, Docker, Cloudflare Tunnel, Tailscale, Bash

May 2026 – June 2026

- Engineered automated note-management pipeline using a system scheduler that invokes the OpenAI API, securely routing requests through a Cloudflare Tunnel to a self-hosted OAuth gateway and MCP services to execute remotely assigned tasks.
- Deployed [VendMe](#), a full-stack UB Hacking 2025 project, on a home Ubuntu server with public HTTPS access via Cloudflare Tunnel.

[Pintos](#) | C, GDB, Docker

January 2026 – May 2026

- Implemented a preemptive thread scheduler with priority donation, a non-busy-waiting alarm clock, and a multi-level feedback queue scheduler (MLFQS).
- Debugged the boot sequence, thread startup, kernel stack initialization, timer interrupts, and x86 assembly context switches using GDB.

[Transport & Routing Protocols](#) | C, Python

January 2026 – May 2026

- Developed a concurrent TCP client-server application using POSIX sockets, process forking, and partial I/O handling for data transfer.
- Built reliable UDP transport algorithm using Go-Back-N & Selective Repeat, including buffering, flow control, and retransmission.
- Implemented distance vector routing algorithm, supporting dynamic topology changes, route convergence, and shortest-path routing.

[Raft](#) | Golang

August 2025 – December 2025

- Implemented Raft consensus algorithm with randomized leader election, heartbeat failure detection, and quorum log replication.
- Engineered fault tolerance across crashes and network partitions through leader failover and log-conflict reconciliation.
- Built concurrent peer coordination and replicated-log synchronization using goroutines, channels, mutexes, and RPCs.

[Dormmart](#) | PHP, React, MySQL, Apache, Bash

August 2025 – December 2025

- Engineered the frontend-backend architecture for a student-targeted campus marketplace webapp deployed on a prod Apache server.
- Built npm/Bash-based build tooling and SCP-based deployment scripts, plus an ordered MySQL schema-migration runner, standardizing environment setup and deployment process across the team's Agile workflow.
- Developed an AJAX-polling-based messaging system featuring asynchronous image uploads and unread-message notifications.

[Custom Web Protocols](#) | Python, JavaScript, MongoDB, Docker

January 2025 – May 2025

- Built a multithreaded HTTP/WebSocket server from raw TCP sockets, implementing routing, frame parsing, and multipart uploads.
- Developed TOTP-based 2FA and GitHub OAuth authentication, real-time messaging, WebRTC video calls, adaptive-bitrate HLS streaming with FFmpeg, and automated video transcription using AWS Transcribe.

LEADERSHIP

[Communications Company](#), Squad Leader | Republic of Korea Army

May 2023 – June 2024

- Led a **10-member** brigade-level network operations squad, maintaining team's morale and achieving **100% successful** tactical network setup across every field training exercise.

[PwC Case Competition](#), Team Leader | PricewaterhouseCoopers

November 2019 – December 2019

- Won **1st place out of 10 teams** by presenting the top solution for a case on China market expansion amid Internet of Things (IoT) adoption and information security challenges.