Kenneth Cula

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EDUCATION

Cornell University — Ithaca, NY
Master of Engineering in Computer Science — *2024 – 2025*

Cornell University — Ithaca, NY
Bachelor of Arts in Computer Science, Minor in English — *2020 – 2024*

Relevant Coursework:

System Security, Distributed Systems, Computer Networking, Databases, Machine Learning, OOP and Data Structures

EXPERIENCE

Computer Networks Head Teaching Assistant | *Python, Git, TCP/IP* — *Jan 2024 – Present*

- **Managed** cross-functional teams of **15 teaching assistants** to develop and grade three **comprehensive homework assignments** improving the ease of grading by **25% through streamlined processes.**
- **Directed** the design and backend development of a **TCP-based course project**, completed by over **250 students**, improving their understanding of networked systems by **20% based on post-course survey.**
- **Led three 1 hour-long** content recitations for **150 students** to teach computer networks content, assignments support, technical questions, and motivate students to pursue the field of Networking.

PROJECTS

System Security Project Development | *Golang, Git, Linux, Bash* — *Jan 2024 – May 2024*

- **Collaborated in 4-person team** to develop key course project on **secure system design** patterns to maintain data confidentiality, integrity, and availability.
- **Spearheaded** the development of **Cryptographic machine authentication** by creating a cohesive **custom API** by combining and extending disparate Go packages to support message encryption and signatures
- **Co-developed user authorization functionality** to support access control models including Discretionary, Mandatory, and Role-Based Access Control design patterns

Distributed Systems Labs and Framework | *Java, Git, Linux* — *Dec 2024 – May 2024*

- **Constructed asynchronous** system client-server infrastructure with **primary-backup** protocol to achieve data redundancy failure tolerance supporting primary server failure.
- **Enhanced** asynchronous system by implementing **Multi-Paxos protocol**, supporting multi-client ledger consistency across all servers with fault tolerance of up to **50% server failure**.
- **Optimized** multi-server efficiency with **sharding and load-balancing workload** to achieve **90% efficient resource utilization** and **35% performance improvement** across system.

LEADERSHIP EXPERIENCE

Risk Manager — Ithaca, NY
Delta Tau Delta Fraternity — *Jan 2024 – Present*

- **Coordinated** and **enforced** safety protocols within organization premises during large events involving **400+ participants** across multiple school bodies.
- Directed communication with university safety and standards office to approve event plans and ensure compliance with **safety standards**

SKILLS & INTEREST

Languages and Tools: Java, Python, C, C++, SQL, Golang, NumPy, MatplotLib, Pandas, Relational Databases, PyTorch, Unix shell, Visual Studio IDE, Eclipse, Unit Testing, Git Version Control
Soft Skills: Written and Verbal Communication skills, problem-solving skills, analytical and problem solving, Software Development Life Cycle
Fluency: English, Spanish
Interests: Chess player (1800 Elo), Club Squash player