

Ethan Mullen

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Education

Master of Science in Computer Science

San Diego State University

GPA: 3.97

May 2026

San Diego, CA

Bachelor of Science in Computer Science

San Diego State University

GPA: 3.69

December 2023

San Diego, CA

Professional Experience

IT Consultant

Mullen IT Systems

August 2026 – Present

Redding, CA

- Provide independent IT infrastructure and systems consulting for small business clients.
- Discovered existing infrastructure and organization issues and developed plans to make improvements including structured cabling, patch-panel organization, and equipment-rack deployment.
- Validated and documented structured cabling with cable testing and mapping tools, ensuring modified cable runs remained functional after infrastructure changes.
- Coordinate infrastructure changes with existing IT providers while preserving production services and ensuring uptime before due date.

AI Evaluation Specialist (Contract)

Surge AI

August 2026 – Present

Remote

- Evaluate AI-generated code for correctness, robustness, and adherence to technical requirements.
- Design and assess programming tasks intended to expose model limitations and failure modes.
- Review model reasoning and implementations across software engineering tasks, identifying bugs and validating proposed solutions.
- Provide structured technical feedback used to evaluate and improve model performance.

Graduate Student Assistant Software Engineer

Research and Cyber Infrastructure Department, San Diego State University

January 2025 – April 2026

San Diego, CA

- Managed production workspaces in Kubernetes using kubectl and Helm, ensuring high availability and proper utilization.
- Prepared and executed a production database migration plan, documenting validation, rollback, and recovery procedures to minimize downtime.
- Built CI/CD pipelines with GitHub Actions and GitLab CI to automate testing and deployments across development, test, and production environments.
- Automated manual processes for metrics collection increasing efficiency and data validity, saving several hours per month.

Undergraduate Student Researcher

Aerospace Engineering Department, San Diego State University

April 2023 – August 2023

San Diego, CA

- Adapted open-source research software to support aerospace engineering analysis and produce results not feasible through manual workflows.

Selected Projects

Self-Hosted Infrastructure

June 2023 – Present

- Configured Dell server hardware with Ubuntu Server to host a single-node Kubernetes cluster for deployment of public facing services.
- Implemented a GitOps deployment architecture using Argo CD's app-of-apps pattern to declaratively define the cluster, enabling automatic reconstruction and reconciliation of services.
- Integrated the External Secrets operator with 1Password to keep references to secrets in Git while storing secret values in a 1Password vault.
- Utilized StorageClasses and OpenEBS to provision logical volumes for data storage instead of using hostPath storage, segmenting PersistentVolume data in dedicated logical volumes.

Multiplayer Game Development

September 2023 – Present

- Developed several multiplayer games with C#, Unity, and FishNet, synchronizing game state between server and clients.
- Designed bootstrappers to coordinate the loading of objects, enforcing readiness before use and preventing race conditions caused by asynchronous dependency initialization.

- Developed a reusable player data management library that maps C# classes to SQL data, allowing multiple games to store data without having to write new integrations each time.
- Integrated logins with external OAuth2 flows to provide a consistent source of truth for player IDs between sessions and different games.

Relevant Skills

Technical adaptability: Quickly learn new technologies and analyze unfamiliar systems and infrastructure to identify problems, design improvements, and implement practical solutions.

Languages: Java, Python, C#, C++, JavaScript, HTML/CSS.

Infrastructure: Kubernetes, Docker, Helm, Linux/Ubuntu Server, OpenEBS, LVM.

DevOps: Git, GitHub Actions, GitLab CI/CD, Argo CD, GitOps, Prometheus, Grafana.

Software & Data: Unity, PostgreSQL, SQL, OAuth2.

AI Tools: Codex, OpenCode; experienced with AI-assisted development workflows, prompting, and custom agents.