# Ethan Nuessle

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## EDUCATION

**Rensselaer Polytechnic Institute**                                                                     Troy, NY

*Bachelor of Science (B.S.), Computer Science and Mathematics, Minor in Cognitive Science    -    GPA: 3.89*        *May 2025*
- Magna Cum Laude
- Letter of Recognition for Academic Excellence

## RELEVANT EXPERIENCE

**Rensselaer Center for Open Source**                                                       Jan. 2025 – May 2025

*Opensource Software Developer for Tornjak*
- Implemented unit tests for recently refactored JWT authentication logic in Tornjak's Go-based microservices, improving maintainability and allowing independent testing of token parsing, header validation, and JWKS initialization.
- Tested and documented Keycloak OIDC authentication for SPIFFE-based identity management in Kubernetes environments, helping ensuring secure role-based access control via validated JWTs and dynamic JWKS discovery.

**Rensselaer Center for Open Source**                                                       Sep. 2024 – Dec. 2024

*Opensource Software Developer for Ceph*
- Implemented additional telemetry features to Ceph, a software-defined distributed storage system to securely and scalably store and manage data.
- Optimized Ceph telemetry modules, adding anonymous RocksDB version metric reporting for improved system monitoring for thousands of deployed clusters.
- Designed and implemented unit tests for newly added telemetry features in RocksDB metrics, ensuring accurate data collection and long-term system stability.

**Rensselaer Center for Open Source**                                                       Jan. 2024 – May 2024

*Opensource Software Developer for VZCode*
- Led full-stack implementation of directory support into VZCode, a real-time browser-based editor, adding features allowing the creation, deletion, and use of directories. Implemented directories into the front-end UI.
- Added and refactored many core features, including authentication, keybindings, and file handling, improving the software for use as part of the VizHub data visualization platform and as part of Worcester Polytechnic Institute data visualization classes.

## PROJECTS

- **Visual Arithmetech** | *C#, WebGL, Unity*

  - Designed and built an interactive educational tool that enhances arithmetic learning by using hands-on virtual environments that integrate real-time sandbox simulations to improve arithmetic comprehension.
  - Won HackRPI Hackathon in the Education and Best Domain categories, recognized for innovation in EdTech.

- **OSUExchange** | *Python, Requests, API, Pip*

  - Developed and open-sourced a Python library to allow the retrieval and use of scores, leaderboards positions, and information about the game "osu!" through the osu! API, to be used by dozens of developers.
  - Led feature development in a fast paced Scrum-based team using the Agile methodology, allowing constant improvements to API usability, and accelerating deployment cycles.

## TECHNICAL SKILLS

**Languages**: Python, JavaScript (TypeScript, Node.js), C/C++, Java, Bash, Haskell, HTML/CSS
**Frontend Development**: ReactJS, Vue.js, Next.js, WebGL, HTML5, CSS3
**Backend Development**: Node.js, RESTful APIs, WebSockets
**Cloud, DevOps, Datbases & Storage**: Docker, Kubernetes, CI/CD (GitHub Actions, Jenkins)
**Machine Learning & Data Science**: PyTorch, TensorFlow, NumPy, Scikit-Learn, OpenCV, Hugging Face
**Developer Tools & Other Skills:**: Linux (Ubuntu), Git, VS Code, JetBrains Suite (IntelliJ, PyCharm), Agile Methodologies (Scrum, Kanban), Test-Driven Development (TDD), JUnit