

Daniel Benish

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EDUCATION

Virginia Tech

Bachelor of Science in Computer Science

Minors in Mathematics, Quantum Information Science and Engineering

GPA: 4.0

Awards: President's List for all semesters

Relevant Coursework: Data Structures and Algorithms, Software Design, Computer Organization, Applied Combinatorics

Blacksburg, VA

August 2023 - May 2027

PROFESSIONAL EXPERIENCE

CACI International Inc.

Software Development Intern

Reston, VA (Remote)

May 2026 - August 2026

- Led an 4-person intern developing AI-equipped pipelines that streamlined workflows for a 12-developer engineering team.
- Implemented a RAG system with VectorDB for semantic search and contextual ranking of a database of 3200 internal system requirements, saving time and improving search quality from simple keyword searching
- Coordinated in an agile Scrum environment through frequent product owner meetings by gathering requirements and iterating often through a customer-facing development process.

Anavation, LLC.

Software Engineer Intern

Chantilly, VA

May 2025 - August 2025

- Developed a full-stack fantasy football app as part of a 3-intern team, building a Python-based API with MongoDB and deploying serverless architecture using AWS Lambda, Step Functions, and AppSync.
- Engineered mobile frontend with React Native and Expo, integrating real-time updates and user interactions, and deployed the app via AWS Amplify for seamless CI/CD.
- Worked in an agile Scrum team, contributing to sprints, standups, and code reviews while building scalable data models, implementing auth, and debugging full-stack functionality across backend and mobile frontend.

LEADERSHIP & VOLUNTEERING

Osteogenesis Imperfecta Foundation

Assistant to Co-Chairs

Oakbrook, IL

Summers of August 2019 - 2024

- Assisted in running an annual charity golf outing that consistently raised more than \$25,000 for research and support benefiting those with a rare bone condition.
- Created a database of contact and financial information for attendees with Excel.
- Organized various charity offerings, including prize holes, giveaways, and raffles.

PROJECTS

Policy-Safe Prompt Validation Library | TypeScript, Docker, Kubernetes, MongoDB

- Package for validating and templating LLM prompts for use in internal models.
- Wrote a TypeScript API to validate template construction, variable type, and policy adherence of user prompts.
- Constructed a MongoDB database to store custom template and policy rule definitions per system instance.
- Built a command line interface and hosted web GUI to access the system according to stakeholder requirements.

Clef Audio | Rust, UI Design, System Design, Synchronous/Asynchronous Multithreading, Model Context Protocol

- Open-source Rust audio package responsible for playback, local library management, and handling audio device status.
- Wrote an MCP server giving AI agents the capability for creating playlists and handling playback from user prompts.
- Designed and implemented a terminal UI in Rust for direct user control of their audio library and playback.
- Formulated and documented a comprehensive system design structure for handling multiple audio and messaging threads.

Ising Model Simulation Package | Python, NumPy, NetworkX, Simulation & Modeling

- Modular Python package that simulates bitstring-based configurations and interactions using custom BitString and IsingHamiltonian classes.
- Implemented both exact and Monte Carlo algorithms to estimate average values like energy and magnetization of systems at varying temperatures.
- Used NetworkX to define and analyze graph-based systems, with optimized update methods for efficient simulation performance.

TECHNICAL SKILLS

Languages: Python, Java, C, C++, TypeScript, Rust

Frameworks & Databases: REST API, GraphQL, React, Next.js, MongoDB, DynamoDB, NumPy, D3, Pandas, Matplotlib

Tools & Platforms: Git, Jira, Linux, AWS (Lambda, AppSync, Step Functions, Amplify, S3, CDK), Docker, Kubernetes