# Grant Benson

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## Experience

**Prometheus Group** **September 2025 - Current**

*SDET | C#, Playwright, Jira*

- Sole QA/SDET and product representative for MDaaS: built the Playwright/C# automation pipeline from scratch and continue expanding it, running regression against development builds as well as release candidates, and set the test strategy and schedule every release ships on.
- Maintains the **test automation pipeline** by triaging and auditing daily test reports from a **GitLab CI/CD pipeline**, debugging failures, and updating automated tests as needed
- Built strong **product and domain knowledge**, learning **MDaaS** workflows and validating integrations with **EAM/ERP systems including SAP and IBM Maximo**
- Asked by leadership to support two other product teams: built a k6 load suite for STO that ramped from 1 to 160 virtual users, catching bottlenecks in several core workflows before release. Also automated most of Vulcan's modal workflows.

**North Carolina State University** **February 2025 – May 2025**

*College of Engineering Undergraduate Researcher | Python, mmWave Studio*

- Built a system to generate animated 3D skeletons from synchronized radar point cloud and multi-IMU data.
- Developed Python tools for depth estimation, sensor fusion, and visualizing human motion in real time.

**The Net VR** **May 2024 – November 2024**

*Gameplay Programmer | C#, Unity*

- Coordinated and contributed to the development of alpha and beta builds with the Scrum schedule.
- Implemented various systems including client input, animation, Vivox spatial sound, and an object manager to create immersive digital cyberspace environment.

## Projects

**FoldeD 2.0** | *C#, Unity* **April 2026 - Current**

- Implemented CVT-MAP-Elites in Unity to search paper airplane fold geometries, tessellating a behavior space too high-dimensional for grid archives, surfacing structurally distinct high-glide designs over a single optimum.
- Designed a variable-length genome encoding for fold sequences with crossover and mutation operators that preserve fold validity, scoring candidates through automated simulation rounds to facilitate unsupervised learning.

**LAIGO Mosaic Maker** | *Python, FastAPI, React 19, Vite, Render, Stripe* **November 2025 - July 2026**

- Chained image segmentation, color quantization, and mosaic layout synthesis AI models into an async pipeline to procedurally generate purchasable LEGO sets with real-time job queue polling and a pay-what-you-can payment system.

**Anti Angler** | *Python, PyTorch, YOLOv8, FastAPI, rasterio/GeoPandas* **August 2026**

- Trained vessel detectors from 0.08 to 0.77 held-out recall (0.94 precision on dense anchorages) via a FastAPI review tool driving an active-learning loop, in a pipeline fusing Sentinel-1/2, AIS, and Global Fishing Watch data to flag illegal fishing in marine protected areas; swept 1,799 areas nightly in CI with 355 offline tests.

**ClaimAR** | *TypeScript, Lens Studio* **July 2025 - June 2026**

- Designed and built a real-time AR multiplayer experience, owning the networking and state sync architecture end to end, including peer replicated grid state over an eventually consistent cloud store, exterior flood fill territory, resolution, and chunked write pacing to stay inside sync layer throughput limits

**Coffee Maker** | *HTML, CSS, Javascript, Java, Spring, Hibernate, MySQL* **April 2024**

- Developed functionality for ingredient addition, inventory system, and recipe creation through backend implementation.
- Facilitated user registration, authentication, order placement, fulfillment, and pickup through full-stack development.
- Leveraged the JUnit testing framework and GitHub actions to extensively test the backend and avoid regression.

## Education

**North Carolina State University** **Aug 2021 – May 2025**

*B.S. Computer Science & Game Development Concentration (3.5 GPA)* *Raleigh, NC*

## Relevant Coursework

- Data Structures and Algorithms
- Operating Systems
- Software Engineering
- Artificial Intelligence
- Linear Algebra
- Game Engines

## Technical Skills

**Languages**: C#, Python, C++, C, Java, JavaScript, TypeScript, SQL

**Developer Tools & Technologies**: Git, .NET, Playwright, React, FastAPI, Qiskit, NumPy, k6, Postman, Three.js, WebGL, Tailwind, Lens Studio, Unity, Unreal Engine