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Benjamin Lewis

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Education

Raleigh, North Carolina   **North Carolina State University**   **Jan 2019 - May 2023**

B.S. Computer Science   3.5 GPA

- Computer Science Honors - Completed challenging course load with a thesis on creating a security system for childcares (Ottery). Supervised by Dr. Lina Battestilli.
- Dean's List - Maintained 3.5 or better on 12 to 14 hours of coursework
- 1st place MATLAB Cody Competition - Solved 20 coding programming problems in MATLAB.
- 1st Place in First Year Engineering Design Day - Spearheaded team in the design of an automatic wind powered bubble blower, beating all other NCSU freshmen.

Work Experience

Founder/Software Engineer   **Envision Reality**   **Jan 2024 - June 2024**

- Envision Reality is a 3D AI-assisted photorealistic interior design.
- Created a 3D visualization engine that utilizes recent Gaussian Splatting research.
- Created Lambda workers for long running AI tasks, using AWS-CDK for deployment.
- Created WASM C scripts to implement faster algorithms in the front end.
- Invented dataless object detection algorithms for point clouds.
- Conduct bi-weekly conversations with customers to guide the development process.
- Cold called hundreds of interior designers with an onboarding success rate of 3%.

Software Engineer   **PowerN**   **Jan 2022 - Dec 2023**

- PowerN is a NC company that specializes in the construction process for nuclear power plants.
- Primary job was leading the development of the 4D web-graphics engine.
- Lead a team of contractors and PHD researchers in implementing their research into the product.
- Designed backend APIs in Django python and optimized APIs and front end data flows.
- Implemented point based compatibility checking for prefabricated construction components.

Projects

Ottery   **https://github.com/ottery-app**

- Childcare security system which awarded me the Computer science honors award.
- Designed and created a system for safely picking up and dropping off kids at daycares.

DuckTyper   **https://www.npmjs.com/package/ducktyper**

- Ducktyper is a runtime DTO validation tool.
- Created so that developers can create templates, then use those to validate input automatically.

Open Source Contributions

- **Threejs** - DragControls, added rotate mode - https://github.com/mrdoob/three.js/pull/27689
- **IFCjs** - Raycaster improvements - https://github.com/ThatOpen/engine_components
- **Lumaapi** - Updated to work with aws lambda https://github.com/envisionreality/lumaapi-python

Technical Skills

- Languages: Javascript, TypeScript, Java, Python, C, HTML/CSS, SQL, Bash, MATLAB
- Frameworks: Pytorch, Three.js, Nest.js, Next.js, React, ReactNative, Potree, Sprint, Node.js, ifc.js
- Tools: Git, Linux, Docker, AWS, JWT, Jenkins, Spring, Jest, WebAssembly (WASM), AWS-CDK