ALEXANDER ARCASOY

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Portfolio: www.alexarcasoy.com | **GitHub:** www.github.com/arcasoy

Work Experience

Dover Corporation, Watertown, MA   **November 2022 - Present**

Software Engineer

- Program & maintain SaaS Web3D applications utilizing Three.js, React, Typescript, Express.js, MSAL, and AWS services
- Developed and successfully shipped features, including 3D animations, camera transforms, material modifications, and more for CDS Mentor, a 3D LMS product that provides immersive work instructions to customers
- Established a Web Component library using Rollup, containing a configurable, framework-agnostic glTF model viewer, providing both an external product and an internal tool that minimized maintenance of 3D implementations company-wide
- Architected and implemented serverless glTF pipeline using AWS API Gateway, SQS, and Lambda for scalability, incorporating a compression pipeline that reduced file size by up to 90%, proportionally improving client load times

Advent Technologies, Cambridge, MA   **February 2022 - October 2022**

Automation Engineer

- Programmed robotic automation cell with SPEL+ language for manufacturing of hydrogen fuel cell components
- Utilized computer vision to locate components to 30-micron precision for coordinate shifts and processing
- Implemented heap sort algorithm to create a priority queue message protocol between two ethernet-controlled devices
- Designed web feeding tension control fixture, two chamber vacuum chuck, and other machinery for process improvement

Blackstone Valley Engineering, Marlborough, MA   **January 2021 – August 2021**

Automation Controls & Electrical Engineering Co-op

- Led controls PLC & HMI development, and wiring, for two industrial automated test stands, increasing throughput tenfold
- Programmed two interacting 6-axis FANUC robots to prove the feasibility of an automated manufacturing process
- Managed the workload of two contractors and served as the customer liaison for project deliverables, deviations, and timeline

Hydrow, Cambridge, MA   **January 2020 – July 2020**

Hardware and Mechanical Engineering Co-Op

- Performed root-cause analysis (8D) and redesigned foot stretcher subassembly to reduce maximum stress by a factor of 2.74 after learning SolidWorks FEA simulations to perform an iterative design study
- Coordinated quality initiatives for proper GD&T design documentation and process improvements with foreign manufacturers
- Conducted user testing to inform two design iterations on a support fixture to mitigate a predicted failure mode

Fresenius Medical Care, Lawrence, MA   **January 2019 – June 2019**

R&D Test and Systems Engineering Co-Op

- Planned and performed tests on unreleased dialysis machine to validate design and provide feedback to a multidisciplinary team
- Developed JavaScript test scripts with data acquisition and fault recognition features for a 584-day reliability test

Education

Northeastern University, Boston, MA   **December 2021**

B.S. in Mechanical Engineering and M.S. in Engineering Management   **GPA:** 3.7 B.S. | 3.8 M.S.

Skills

- **Programming:** Three.js, React, Web Components, Express.js, Typescript, Git, Python, Ladder Logic
- **Cloud Services:** AWS API Gateway, Lambda, CodeArtifact, SQS, S3, EC2, and SES, Azure DevOps, GCP
- **Applications:** Docker, CLI, Jira, VSCode, Certified SolidWorks Professional (CSWP), MATLAB, FANUC, Allen-Bradley

Hobbies & Interests

- **Hobbies:** Cycling, Weightlifting, Snowboarding, Travel, Rowing, Hiking, Windsurfing
- **Community Service:** Eagle Scout, Head of the Charles, Boston Marathon