

ALEXANDER ARCASOY

arcasoy1@gmail.com | (201)-675-2267

Portfolio: www.alexarcasoy.com

Education

Northeastern University, Boston, MA

Dec. 2021

Bachelor of Science in Mechanical Engineering and Master of Science in Engineering Management

GPA: 3.705

- **Graduate Courses:** Project Management, LEAN, Operations Research, Product Development, and Product Prototyping, etc.
- **Undergraduate Courses:** Controls, Heat Transfer, Dynamics, FEA, Material Science, Fluid Mechanics, Thermodynamics, etc.
- **Capstone Design Project:** Designed and prototyped N95 rated face mask compatible with nasal cannulas to provide protection for immunocompromised individuals. Developed design requirements utilizing potential customer surveys, managed timeline and risks with project management tools, and collaborated with team to iterate upon design. Learned surfacing in SolidWorks for design and leveraged SLA and FDM 3D printing, injection molding, and industry standard seal testing for prototyping.
- **Extracurriculars:** NEU Esports (Founder & President), Beta Gamma Epsilon Engineering Fraternity (Treasurer)

Work Experience

Blackstone Valley Engineering, Marlborough, MA

Jan. 2021 – Aug. 2021

Automation Controls & Electrical Engineering Co-op

- Led controls development for two healthcare based industrial automated test stands to increase throughput by a factor of 10+
- Developed PLC and HMI software on Allen-Bradley/PanelView Plus and Trio/Weintek hardware
- Produced programs for two interacting 6-axis FANUC robots to prove the feasibility of an automated manufacturing process
- Performed factory acceptance testing (FAT) to validate the functionality of control systems including PID controls, recipe and sample queuing, safety interlocks, alarming, and data collection
- Managed the workload of contractors and served as the customer liaison for project deliverables, deviations, and timeline
- Wired industrial control panel and amended Electra Cloud schematics with all deviations

Hydrow, Cambridge, MA

Jan. 2020 – Jul. 2020

Hardware and Mechanical Engineering Co-Op

- Designed solutions for R&D and sustaining initiatives by utilizing DFM for sheet metal, injection molding, and 3D printing
- 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 iterative design study
- Coordinated quality initiatives for proper GD&T design documentation and process improvements with foreign manufacturers
- Assessed five and implemented two unique drivetrain configuration changes to reduce audible noise
- Conducted user testing to inform two design iterations on a support fixture to mitigate a predicted failure mode

Fresenius Medical Care, Lawrence, MA

Jan. 2019 – Jun. 2019

R&D Test and Systems Engineering Co-Op

- Planned and performed tests on unreleased dialysis machine to validate design and provide feedback to multidisciplinary team
- Created a 584-day peristaltic pump reliability test procedure based on system specifications and DFMEA documents
- Designed and prototyped an optical sensor cycle count fixture using SolidWorks PDM and a mill, bandsaw, and thread die
- Developed JavaScript test scripts with data acquisition and fault recognition features for unreleased medical device evaluation

Skills

- **Programming:** Node.js, Python, SQL, C++, Microcontrollers (Arduino & Raspberry Pi), and Ladder Logic
- **Applications:** Certified SolidWorks Professional (CSWP), Fusion 360, MATLAB, FANUC, Allen-Bradley, and Microsoft Office
- **Tools:** 3D Printing, Soldering, Crimping, Mill, Lathe, Band Saw, Drill Press, Two Man Auger, Jigsaw, and standard power tools
- **Languages:** Partially fluent in Turkish and Spanish

Hobbies & Interests

- **Hobbies:** Community Rowing Inc., Travel, Snowboarding, Hiking, Cycling, Windsurfing
- **Community Service:** Eagle Scout project, Head of the Charles, Boston Marathon, Pilgrim Church