Davis Cole

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Education

Reykjavik University, Iceland School of Energy Jul 2021 – Nov 2021
Master of Science, Sustainable Energy Engineering **GPA: 8.6/10**

University of New Hampshire (UNH), Durham Aug 2017 – May 2021
Bachelor of Science, Mechanical Engineering **GPA: 3.45/4**

- **Project Lead - Senior Capstone**
  - Investigated ventilation and airflow strategies to reduce lateral COVID-19 aerosol transfer in classrooms
  - Performed experiments and analyzed test data to validate models
  - Developed Fluent CFD models to validate experiments and evaluate transfer prevention methods
- Pi Mu Epsilon (Mathematics Honors Society)

Technical Skills
Scripting (Python, Bash, PowerShell, MATLAB), CFD (OpenFOAM, Fluent), 3D Modeling

Professional Experience

R&D Verification Engineer II Sept 2022 – Present
Ansys Inc., Fluids Business Unit, Fluent Testing Team Lebanon, NH

- Facilitating and maintaining daily regression test suites using Azure DevOps Pipelines
  - Overhauled existing workflow, increasing agent uptime by 50%, reducing cycle time by 100%
  - Implemented automated pipeline saving 2 hours a week for 5 engineers each
  - Identifying and resolving issues by communicating with developers
- Upgrading test results database front-end website
  - Migrated legacy database website features from Perl DBI to Django
  - Implementing enhancement suggestions from fellow test engineers
- Contributing to development of an internal, Python-based test runner used for all Ansys Fluids products
- Creating automated test cases to validate new release features

Verification & Validation Test Engineer Jan 2022 – Sept 2022
DEKA Research & Development Corp. Manchester, NH

- Linear encoder characterization and test fixture overhaul
  - Evaluated encoder performance to prove concept design and ensure subsystem requirements are met
  - Developed Arduino/Python SPI communications to display linear encoder output in real-time
  - Modified and 3D printed production-line parts for test fixture compatibility
- Upgraded and validated lab environment logging system and analysis tools (C# backend, Python frontend)
- Performed ad hoc testing to determine the effect of system compliance on medical device performance

Mechanical Engineering / Simulation Intern Jun 2020 – May 2021
DEKA Research & Development Corp. Manchester, NH

- Utilized CAE methods in open-source software packages to support design team efforts
  - Performed root cause analysis of air desorption events within infusion pump tubing using OpenFOAM
  - Measured load vs. displacement of tubing, developed equivalent hyperelastic FEA models in Mecway

Personal Experience

President – American Society of Mechanical Engineers (ASME) Jan 2020 – May 2021
University of New Hampshire, Durham

- Communicated with members of industry to organize presentations at the University and tours of facilities
- Coordinated club meetings and webinars, executive board meetings, and spread awareness of ASME

Ambassador – The GREEN Program (TGP) Dec 2019 – Aug 2020

- Official representative of TGP at UNH, attended study-abroad events and shared Program news
- Studied renewable energy production and its economic impact at Reykjavik University, and toured geothermal, hydroelectric, and biofuel power plants
- Presented a capstone project on algae biodiesel production and its role in Iceland's energy independence

Member – STEMbassadors Feb 2019 – May 2021
University of New Hampshire, Durham

- Motivated K-12 students across New Hampshire to pursue STEM through hands-on activities
- Attended a NSF research conference at Boston University to discuss the improvement of STEM outreach programs