Al Miller III

Mechanical Engineer

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ABOUT

Engineer with a passion for sustainability.

EDUCATION

University of Connecticut, Storrs, CT 2014 – 2018
B.S. in Mechanical Engineering, *Minor in Philosophy, GPA 3.65*
Congressional Certificate of Merit, ASME, Dean's List, New England Scholar, UConn Honors, Pi Tau Sigma, Alpha Lambda Delta, founder of Philosophy Club

EMPLOYMENT

MPR Associates, Inc., Washington, D.C. 2018 – Present
Consulting Engineer, with select project experience including:

- Designed, validated, and championed IECC/NFPA- compliant combined HVAC and exhaust systems for battery energy storage systems; produced HVAC power and control schematics and mechanical drawings using AutoCAD and performed computational fluid dynamics calculations to validate designs using ANSYS CFX; adoption of designs saved millions of dollars in retrofits
- Performed broad spectrum of on-site engineering services, including engine signature analysis of emergency diesel generators at Salem Nuclear Power Plant in New Jersey, high-energy piping system walkdowns and hanger inspections at Morgantown and Chalk Point Generating Stations in Maryland, and performance verification testing including test procedure design and execution using LabVIEW/DAQ equipment to support FDA approval of a commercial medical device
- Audited aspects of large capital projects for federal clients including the US Department of Energy (Office of River Protection) for the Hanford site in the Columbia River Gorge, and the National Science Foundation, performing an Earned Value Management (EVM) Surveillance Review and schedule health analysis (Primavera P6) for its $350 million Regional Class Research Vessel project in Louisiana

United Technologies, Windsor Locks, CT 2017 – 2018
Senior Thesis, A Novel Method for Sealing Porous Plates
Leader of a student team, working with faculty and manufacturing companies to design and analyze a novel method for sealing heat-exchanger porous plates on the CST-100 Starliner crew transport capsule for the International Space Station, reducing process costs by 90%; validated the design through Finite Element Analysis (ANSYS LS-DYNA) and physical testing, and presented the concept to executives at United Technologies for future adoption

General Dynamics, Electric Boat, New London, CT 2016
Intern
Assisted a team of project engineers in execution of a large capital construction project of an on-shore test facility at Cape Canaveral for the US Navy through CAD modeling of system components with Siemens NX; interpreted and improved HVAC system control diagrams and building P&IDs, and performed head loss calculations for large piping systems using Excel

UNIVERSITY

Nguyen Research Group, Storrs, CT 2015 – 2018
Researcher, nguyenresearchgroup.com
Co-authored *A Biodegradable Piezoelectric Force Sensor* in PNAS (14% acceptance rate)
Co-authored *3D nano- and micro-patterning of biomaterials for controlled drug delivery* in Future Science

Spring Valley Student Farm, Storrs, CT 2015 – 2018
Farmer
Volunteered at an organic, self-sustaining farm; lived on the farm in 2017–2018, grew a community through education and outreach; co-designed and built a functional 1,000-gallon aquaponic system

University Residential Life, Storrs, CT 2017 – 2018
Resident Assistant
Facilitated an environment of inclusion and support within a community of over 40 students

Engineers Without Borders, Storrs, CT 2014 – 2016
Volunteer
Supported development of a small-scale irrigation system to transport fresh water to remote communities Ethiopia's Amhara region; led design discussions and communications with an international project team

SKILLS

HVAC. Finite Element Analysis (ANSYS CFX/LS-DYNA). Drafting and CAD (AutoCAD, Siemens NX, Solidworks). Coding (Excel VBA, MATLAB/Simulink, Python, C/C++, JavaScript, AWS). Project Management (client engagement, EVM, Primavera P6). Agile.

INTERESTS

Naturalism (hiked entirety of Pacific Crest and Appalachian Trails). Music (classical pianist).