Al Miller III

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ABOUT

Software engineer passionate about holistic sustainability. Technically curious with a philosophical bent. Skilled in full-stack development, distributed systems, and data analysis.

PROFICIENCIES

Node.js (Express, React + Redux). AWS. GIS (ArcGIS, Leaflet, GDAL, Python). CI/CD (Git, CircleCI). SQL (PostgreSQL). iOS (Swift). Español (intermediate).

EDUCATION

University of Connecticut, Storrs, CT 2014–2018
B.S. in Mechanical Engineering, Minor in Philosophy, 3.6 GPA
CT Congressional Certificate of Merit, New England Scholar, Philosophy Club Cofounder, Resident Assistant, Engineers without Borders.

EXPERIENCE

MPR Associates, Inc., Alexandria, VA 2018–present
Software Engineer (MPR is a multi-disciplinary public/private consulting engineering company)

SOFTWARE

- Developed a geospatial energy utility asset management platform for optimized resource allocation and prioritization of equipment failure preventative maintenance actions in consideration of wildfire-risk (ESRI ArcGIS JS API, React). Performed input raster layer processing using GDAL, Python.
- Lead iOS developer for a novel at-home allergen patient care technology for the Mayo Clinic. Applied advanced image processing and computer vision algorithms and image processing techniques to enable automatic image capture. Currently developing cloud backend portal for patient-physician interactions (GCP).
- Applied an NLP multi-label classifier (Python, NLTK, SQL) for the Electric Power Research Institute (EPRI) to assimilate a ~30-million-character database of plant-maintenance data.

OTHER

- Led an Agile team of three engineers in performing complex computational fluid dynamics calculations (CFD) to demonstrate adequacy of battery storage ventilation system designs against regulatory criteria. Developed novel workflows, including implementation of SLURM for batch-running multi-day CFD tasks on RHEL servers.
- Performed statistical (Monte Carlo) schedule risk analyses using Python and Safran Risk and leveraged results to inform and influence the top of Hanford management for the DOE's largest ($2.5 billion annually) capital project.
- Fostered relationships with National Science Foundation (NSF) personnel and performed analyses in support of Earned Value Management System (EVMS) reviews of NSF's Regional Class Research Vessel and Vera C. Rubin Observatory.

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

Spring Valley Student Farm, Storrs, CT 2017–2018
Farmer
Volunteered and lived on an organic farm and helped build a community through education and outreach. Co-designed and built a functional 1,000-gallon aquaponic system.

United Technologies, Storrs, CT 2017–2018
Senior Thesis
Co-authored *A Novel Method for Sealing Porous Plates.*

Engineers without Borders, Storrs, CT 2014–2017
Member
Supported development of a small-scale freshwater irrigation system to remote communities Ethiopia's Amhara region; led design discussions with an international project team.

General Dynamics, New London, CT 2016
Engineering Intern

INTERESTS

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