Maxwell E Franklin

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Summary

I am a recent M.S. Civil Engineer graduate seeking an entry level software development position. Throughout my undergraduate and graduate education, I developed programming skills in NetLogo and R for constructing agent-based models and analyzing simulation outputs. Previously, I worked for the University of Alaska Anchorage investigating the practicality of drone use for estimating landfill lifespan. I processed and analyzed massive photogrammetry and LiDAR datasets in Python to calculate volume differentials in landfill borrow and fill pits. I also bring leadership experience to the table – my time overseeing a small research team investigating the effects of climate change and human development scenarios on subsistence hunting dynamics at Nuiqsut, AK, necessitated the development of leadership and independent decision-making capabilities, both of which I will bring to bear in your position. My successful retraining of skills from biology to civil engineering highlights my adaptable and quick-learning nature, traits that I utilize when pursuing my interest in learning new programming languages.

Education

University of Alaska Anchorage

M.S. Civil Engineering	Jan 2016 – Aug 2017	GPA: 3.9
B.S. Biological Sciences	Aug 2011 – May 2015	GPA: 3.79

Class Highlights: NetLogo Simulation and Modeling, Advanced Statistical Methods, Arctic Engineering, Coastal Measurements and Analysis, Coastal Engineering, Surface Water Dynamics.

Work History

Adjunct Professor and Research Associate, University of Alaska Anchorage

Aug 2017 – Dec 2017 | Anchorage, AK · Supervisors: Martin Cenek, (907) 786-1380 | Aaron Dotson, (907) 786-6041

- Excellent communication and teamwork skills required for collaboration with K2Dronotics to conduct a drone-use feasibility study for the Anchorage Landfill.
- Rapidly acquired Python programming language skills to perform volumetrics on photogrammetric and LiDAR point clouds.
- Participated in AK GIS Day 2017, delivering a professional presentation to the Municipality of Anchorage highlighting challenges and benefits of drone-use in surveying Anchorage's landfill.
- Co-authorship of scientific publication detailing techniques used for analyzing and comparing photogrammetric data with experimental single beam LiDAR (in progress).
- Taught Introduction to Complexity, requiring excellent organizational, communication, and leadership skills to ensure students acquired knowledge on techniques for analyzing and modeling complex systems.
- Assisted in managing a small research team investigating impacts of climate and human development scenarios on subsistence hunting dynamics at Nuiqsut, AK.

- Co-authorship in Frontiers in Ecology and Environment detailing impact of climate change and human development scenarios on subsistence hunting dynamics at Nuiqsut, AK (in progress).
- Disseminated scientific research at ISEM 2017 and OCEANS 2017 conferences.

Graduate Research Assistant, University of Alaska Anchorage
Jan 2016 - Aug 2017 | Anchorage, AK • Supervisor: Martin Cenek • Contact: (907) 786-1380

- Designed an agent-based model of the Kenai River Fisheries using NetLogo programming language. Used R Gnuplot programming languages to analyze collected data investigating impacts of climate change on salmon run-timing dynamics.
- Authored a thesis and co-authored three publications detailing construction and use of an agent-based model of the Kenai River Fisheries for scenario based studies.
- Assisted in managing a research team in designing and constructing an agent-based model for simulating impacts of human development and climate change on subsistence hunting dynamics at Nuiqsut, Alaska.
- Participated and disseminated scientific research at ISEM 2016 and GIScience 2016.

Research Technician I, University of Alaska Anchorage
June 2015 - Dec 2015 | Thule, Greenland • Supervisor: Jeff Welker • Contact: (907) 786-6110

- Collected Greenland ice sheet stream samples for isotopic analysis ($^{18}O/^{16}O$, D/H).
- Collected CO_2 flux measurements from vegetation plots simulating climate change scenarios.
- Collected methane gas samples for long-term climate change study at Raven Lake vegetation plots.
- Prepared arctic vegetation samples for isotopic analysis.
- Prepared water samples for isotopic analysis.

Skills

- Extensive experience with NetLogo programming language.
- Basic experience with front-end web development skills (HTML, CSS, Javascript).
- Basic experience with Python programming language.
- Basic experience with R programming language.
- Basic experience with Octave programming language.
- Exposure to Java programming language.
- Complicated technical and research document writing using ShareLaTeX.