ALLIOT C. NAGLE

alliot.nagle@gmail.com

EDUCATION

University of Wisconsin-Madison Sept. 2019 – Present
MS Electrical Engineering Madison, WI

University of Wisconsin-Madison Sept. 2014 – May 2019
BS Electrical Engineering Madison, WI

RESEARCH EXPERIENCE

Algal Bloom Prediction & Modeling Jan 2018 – Present
Professor: Dimitris Papailiopoulos Madison, WI
- Analyze and clean data from Clean Lakes Alliance, NOAA, and NTL-LTER to form data set
- Apply PCA, kernel SVMs, k-nearest neighbor, random forests, logistic regression, and neural networks to the data to choose best model and gather insight about the behavior of algal blooms
- Utilize high-throughput computing for model training
- GitHub Repository: https://github.com/acnagle/CLA-Project

Undergraduate Researcher May 2017 – Aug. 2017
Plasma Processing Technology Lab Madison, WI
Professor: J. Leon Shohet
- Modeled surface potential of silicon wafers with thin films in MATLAB
- Increased reliability of and significantly reduced Kelvin probe operation times
- Wrote a technical paper explaining the physics and principles of the Kelvin probe

TEACHING EXPERIENCE

Graduate Teaching Assistant Sept. 2019 – Present
University of Wisconsin-Madison Madison, WI
ECE 331: Introduction to Random Signal Analysis and Statistics
- Answer student questions during in-class activities and office hours. Engage with students in a flipped-classroom active learning environment to better facilitate their understanding of course content
- Responsible for implementing all in-class activities, homeworks, and quizzes in Canvas, our online learning tool

Undergraduate Teaching Assistant Sept. 2018 – Dec. 2018
University of Wisconsin-Madison Madison, WI
ECE 330: Signals and Systems
- Answered students' questions in a flipped-classroom active learning environment in this second-level signal processing course
- Topics included Fourier Series, FT, DTFT, DFT, sampling, LTI systems, FIR filters, discrete and continuous-time systems, difference and differential equations

Undergraduate Teaching Assistant Jan. 2018 – May 2018
University of Wisconsin-Madison Madison, WI
ECE 203: Signals, Information, and Computation
- Answered students' questions in a flipped-classroom active learning environment in this first-level signal processing course
- Topics included complex numbers, convolution, LTI systems, Fourier Series, DFT, sampling, filtering, image processing

RELEVANT COURSEWORK

CS 760: Machine Learning, CS 540: Intro to Artificial Intelligence, CS/ECE/ISyE 524: Intro to Optimization, CS/ECE/ME 532: Matrix Methods in Machine Learning, CS 367: Intro to Data Structures, ECE 729: Theory of Information Processing and Transmission (currently enrolled), MATH 521: Analysis I (currently enrolled)

PROFESSIONAL WORK EXPERIENCE

Data Science Intern
May 2019 – Aug. 2019
Elutions
Delafield, WI
- Performed data cleaning and feature engineering for predictive maintenance and RUL models. Implemented predictive maintenance model as a binary classifcation task
- Developed scalable algorithms for automatically detecting air handling unit savings opportunities. Savings up to 72% was achieved
- Analyzed time series data for various proof of concept tasks

Hardware Engineering Intern
May 2018 – Aug. 2018
Thermo Fisher Scientific
Madison, WI
- Designed the LED LightBar for the Nicolet Summit FTIR Spectrometer using Altium Designer
- Developed, fabricated, and tested functioning prototypes of the LED LightBar
- Collaborated with multi-disciplinary team of interns to develop the LED LightBar from conception to mass production
- Wrote a technical procedure for generating RoHS compliancy reports for PCBAs

TECHNICAL SKILLS

Programming Languages	Java, MATLAB, Julia, HTML, SQL, Python (Sci-kit Learn, Pytorch)
Software & Tools	Amazon EC2, LaTeX, Altium Designer, Git, MS Office

SERVICE

Poverty Alleviation Volunteer
March 2018
Alternative Breaks, Wisconsin Union Directorate
Cincinnati, OH
- Learned about how gentrification and homelessness affects residents living in Cincinnati
- Provided service to those in need

Tutor and City Cleanup Volunteer
March 2017
Alternative Breaks, Wisconsin Union Directorate
Memphis, TN
- Helped clean public and private property through trash pickup and urban gardening
- Tutored children in an after-school program

Urban Gardening Volunteer
March 2017
Badger Volunteers
Madison, WI
- Completed outdoor and gardening work for an energy-sustainable community center and school (Badger Rock Middle School)

PERSONAL

E-bike
May 2019 – August 2019
- Converted my bike into an electric-powered bicycle using a hub motor E-bike kit
- Designed and hand-built the 48V 13S5P battery pack using 65 lithium-ion NCA (nickel cobalt aluminum oxide) 18650 battery cells

Hobbies
- Reading, running, biking, weight training, cooking, and listening to or practicing music