Nolan Flannery

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EDUCATION

University of Washington, Seattle, WA — *B.S. Physics/B.A. Mathematics*
SEPTEMBER 2016 - JUNE 2019

Northeastern University , Boston, MA — *MS Physics*
SEPTEMBER 2020 - DECEMBER 2021

University of Washington, Seattle, WA — *Full Stack Engineering Certificate*
MARCH 2022 - PRESENT

RESEARCH/PROJECTS

CMS Collaboration - *Parameterized Neural Network, Advisor: Emanuela Barberis, Northeastern University, Boston, MA*

I have been working on using a parameterized neural network from another analysis group for the Di-Higgs bbZZ decay channel. This project consists of data wrangling, data munging/cleaning, testing NN architectures, determination of the most efficient NN for our analysis purposes, and culminating in the implementation of the NN into our groups' analysis framework.

ATLAS Collaboration - *Di-Higgs Search, Advisor: Anna Goussiou University of Washington, Seattle, WA*

I have completed a year's worth of research under Professor Anna Goussiou studying the signal discrepancies between the spin-2 graviton and spin-0 heavy scalar Higgs boson. This project also served as an intro to C++ and the ROOT analysis software.

Variable OLED Lighting/Stowage Bin Sensor — *Innovations Team*

My Innovations internship at Boeing culminated in two finished prototypes that I designed and built. The variable Organic LED (OLED) uses various circuit elements to sense the luminance of a closet and continuously vary the needed light output of the OLED which significantly lowered battery consumption in the long-term. The stowage bin sensor uses an ultrasonic sensor to continuously read and determine if any luggage is in a stowage bin.

WORK EXPERIENCE

Boeing, Everett, WA— *767-2C Wire Installation Intern (Engineering)/Interiors Responsibility Center Innovations Intern*
JUNE 2016 - SEPTEMBER 2016/JUNE 2017 - SEPTEMBER 2017

While interning in the electrical engineering department supporting the 767-2C Tanker, I learned how to read and revise released engineering drawings and use various engineering databases and tools including Catia. / Open ended, project-based internship that allowed me to support various interiors groups at Boeing by using physics, mathematics, and engineering. My role was to design and prototype various sensors to meet rigorous airplane design specifications.

University of Washington Applied Physics Lab, Seattle, WA— *Polar Science Center Student Assistant*
SEPTEMBER 2019 - JUNE 2020

Assisted polar science research in conjunction with NASAs Jet Propulsion Laboratory for a deep sea diver melt probe. Responsibilities included lab testing, thermistor calibration, data munging/analysis, circuit design and fabrication.

SKILLS

CODING - I have used various coding platforms including Python, C/ C++, Java, PIC Assembly, Matlab, and Mathematica, JavaScript, TypeScript, HTML, and CSS. Within machine learning, I have dealt with various subsets of the following modules: Keras, PyTorch, and SKLearn.

COMPUTATION - Through intensive coursework in both mathematics and physics and STEM work experiences, I have learned to problem solve on both the applied engineering level and the theoretical (proof based) mathematical and physics level.

QUALITIES

TEAMWORK - I have played sports my whole life and I know how to work well with others, which is vital in modern STEM positions.

WILLINGNESS TO LEARN - Learning is my greatest passion. Though I am formally trained in Physics and Mathematics, my desire now lies in the data science field and I am excited to learn anything that could help me in that field.

DETERMINED - Outside of my academic achievements, I have been self-teaching python and machine learning. This includes enrolling in additional courses on top of graduate studies and working through various textbooks. Data science is new and exciting to me and I look at it as not only a career, but a passion and hobby.

ACCOLADES

LAWRENCE AWARD - award winner for excellence in first year graduate physics teaching

RESEARCH AWARD - Physics department Summer 2 research award for outstanding first year graduate student

Blue Origin, Seattle, WA— *Software Development Engineer*
JANUARY 2022 - PRESENT

I am currently working as a full stack software development engineer for the Enterprise Technology department at Blue Origin. Currently, this includes assisting in the build/maintenance of new and existing software services for internal company use. Tools, frameworks, etc. that I currently utilize include: Java, JavaScript, TypeScript, HTML, CSS, Angular, React, PostgreSQL, Mongo, and graphQL.