EMMA DROBINA

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EDUCATION

Master of Science in Computer Science — December 2021

University of Florida, GPA: 3.83/4.00 — Gainesville, FL

Bachelor of Science in Computer Science — May 2018

University of South Carolina Honors College, GPA: 3.95/4.00 — Columbia, SC

SKILLS

- **Programming Languages:** Python, C++, SQL, Java, C#
- **Programs:** GitHub, Jupyter Notebook, Visual Studio, Atom, Eclipse, Spyder
- **Operating Systems:** Ubuntu, Windows 7-10, MacOS, iOS
- **Other:** machine learning libraries (scikit-learn, Tensorflow, Keras), machine learning techniques (logistic regression, linear regression, decision trees/random forests, neural networks, adversarial deep learning, KNN, k-means clustering, PCA), technical & non-technical writing, user interface design

CERTIFICATES

- Herbert Wertheim College of Engineering Graduate Certificate in Machine Learning (ECE)

WORK EXPERIENCE

Los Alamos National Lab — Los Alamos, NM (remote)

Student Intern — May – August 2021, May – August 2022

- Used PyTorch CNNs and vision transformers to classify multispectral satellite imagery and studied the results of explainability toolkits such as Captum.AI and pytorch-grad-cam on the output
- Collaborated on research into using unsupervised machine learning to detect communities on social media
- Utilized BERT, PyTorch, and Pandas to generate text embeddings and aggregate them for analysis
- Contributed to a project on adversarial learning & explainable ML using CleverHans and LIME

Lawrence Livermore National Lab — Livermore, CA (remote)

Student Intern — May – August 2020

- Migrated an open-source visualization tool for high-dimensional scientific models called NDDAV to Jupyter Notebook
- Added ability for NDDAV to handle additional data formats
- Presented project results virtually to fellow employees

Human Experience Lab (HXR Lab) — Gainesville, FL

Graduate Research Assistant — August 2018 - present

- Collaborated with other graduate students on multiple projects incorporating logistic regression, random forests, and TensorFlow deep learning and machine learning explainability tools like LIME and XAI360
- Transitioned open-source voting software code from Java to Python and provided quality improvements
- Coordinated with two to four other graduate students on multiple publications with tight deadlines
- Presented research on machine learning & bias at conferences
- Created educational resources on machine learning and incorporated them in talks

Boeing — Charleston, SC

IT Intern (Airplane Systems Computing) — May – August 2015, May – August 2016

- Conceptualized, developed, and built a desktop application for project managers in C# and SQL
- Increased speed of a C# application used to import Excel documents to SQL Server by 30%
- Migrated databases from Access to SQL and rewrote websites to accommodate new connections

ACTIVITIES

- Secretary of Emerging Leaders in Science Policy & Advocacy (ELISPA)
- Member of Women in Science and Engineering (WiSE)