Erin McGowan

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Education

New York University Tandon School of Engineering **Sep. 2022 – Present**
Ph.D. Computer Science; Future Leader Fellow (highest level Ph.D. full funding); GPA: 3.78/4.0 *New York, New York*

Rutgers University **Sep. 2018 – May 2022**
B.A. Mathematics; Minors: Computer Science, Comparative Literature; GPA: 3.79/4.0 *New Brunswick, New Jersey*

Relevant Coursework

- Visualization for Machine Learning
- Machine Learning
- Information Visualization
- Computer Graphics
- Big Data
- Design and Analysis of Algorithms I and II

Selected Experience

NYU Visualization, Imaging, and Data Analysis Center **Sept 2022 – Present**
PhD Researcher *New York, New York*

- Worked with a team to develop *ARGUS*, a visual analytics system for multimodal sensor data used by researchers on the DARPA Perceptually-enabled Task Guidance project who seek to build an augmented reality (AR) assistant, using D3.js, JavaScript, and Python
- Developed *ARPOV*, a tool for creating and analyzing panoramic mosaic-based visualizations of object detection outputs tailored to AR applications, using OpenCV.js, WebGL, Javascript, and Three.js
- Wrote paper as joint first author titled "ARGUS: Visualization of AI-Assisted Task Guidance in AR," which earned a Best Paper Honorable Mention at IEEE Transactions on Visualization and Computer Graphics 2023

National Center for Advancing Translational Sciences **June 2022 – Sept 2022**
Data Science Intern *Remote*

- Extracted a graph network of almost 1500 nodes containing data relevant to glioblastoma (brain tumors) from the NCATS Genetic and Rare Diseases Knowledge Graph database using Neo4j, Cypher, and Python
- Performed network analysis on the graph network using Gephi, identifying 4 promising potential candidates for drug repurposing to treat glioblastoma and prompting two follow-up validation studies which began after my departure
- Presented findings at the National Institutes of Health (NIH) and National Center for Advancing Translational Sciences (NCATS) summer poster days
- Wrote a paper as first author titled "Integrative Rare Disease Biomedical Profile-based Network Supporting Drug Repurposing, A Case Study of Glioblastoma," which was published in the *Orphanet Journal of Rare Diseases*

Selected Projects

DatasetsSummarizer | *Python, D3.js, HPC Cluster, Apache Spark, Jupyter* **May 2022**

- Worked with a team of three to develop a dashboard of interactive visualizations which describe and compare features of a large number of datasets in a single view (compatible with Jupyter Notebooks)

A.I.D.A. | *Python, Keras, NumPy, Jupyter* **Feb 2022**

- Worked with a partner to develop an application that creates and suggests AI-generated image descriptions for Twitter users to add to their tweets before posting
- Independently implemented natural language processing model in Python for image description generation
- Won Best Overall Hack and Best AI Hack at a Rutgers University hackathon (HackHers 2022)

Skills and Qualifications

Languages: Python, JavaScript, Java, GLSL, SQL, Cypher, MATLAB, Maple, HTML/CSS, LaTeX
Technical Proficiencies: PyTorch, Keras, Scikit-learn, NumPy, Pandas, OpenCV, WebGL, MySQL, Neo4j, Apache Spark, D3.js, Three.js, Git, Heroku, Firebase, VS Code, Jupyter Notebooks, Google Colab, Gephi
CITI certified in Social and Behavioral (Human Subjects) Research

Leadership

oSTEM NYU **Oct 2022 – President**
Postgraduate Liaison *New York University*

- Plans and hosts professional development and community-building events for LGBTQ+ STEM students with a focus on the graduate student experience

oSTEM Rutgers **April 2020 – May 2022**
Co-President *Rutgers University*

- Collaborated with the global organization Out in STEM and the Rutgers Center for Social Justice Education and LGBT Communities to host professional and social events for LGBTQ+ STEM students
- Secured and managed thousands of dollars in funding from the undergraduate student assembly each semester