

FLYNN O'CONNELL

Neuroscientist | Software Developer

FlynnOConnell@gmail.com | (518) 918-1741 | Binghamton, NY | FlynnData.org | github.com/NeuroPyPy

Summary: Experienced Software Developer with a strong background in web development, scientific computing, image analysis, and data processing. Proficient in Python, C/C++, JavaScript, and Java, with a data-oriented mindset. Skilled in front-end and back-end development, as well as machine learning and deep learning frameworks. Passionate about learning, improving, and staying at the forefront of emerging technologies and industry trends.

WORK EXPERIENCE

Research Scientist

Binghamton University

December 2018 - Present Date. Binghamton, NY

- Developed an internally hosted website to facilitate the sharing of data visualizations and graphical tools among team members, streamlining collaboration and communication.
- Implemented responsive and user-friendly design elements to ensure an optimal user experience for colleagues accessing the platform.
- Integrated, validated, and documented complex codebases for processing intricate datasets, emphasizing comprehensive documentation and code quality.
- Deployed and maintained version-controlled libraries in Python, C++, and MATLAB to streamline code management and facilitate collaboration.
- Built machine learning models utilizing TensorFlow and SciKit-learn Python libraries for advanced data analysis, focusing on image processing and classification.
- Enhanced the performance of legacy applications by optimizing SQL queries and implementing vectorization techniques.
- Created multiple data-processing repositories using Python and C++ to support various neuroimaging research initiatives, contributing to the advancement of knowledge in the field.

PROJECTS/PORTFOLIO

Calcium Imaging Data Analysis Package (Python, C++)

<https://github.com/NeuroPyPy/CalciumAnalysis>

- Process, load and integrate large multi-faceted dataset for statistics and visualization.
- Preprocess dataset for outliers, trends, and deviations.

Neuroexplore (Python, C++)

<https://github.com/NeuroPyPy/Neuroexplore>

- An interactive data visualization and exploration tool for neuroscience data.
- Provides real-time analysis and visualization of neural activity.

Metric-Space-Analysis (Python, C, MATLAB)

<https://github.com/NeuroPyPy/Neuroexplore>

- Software to calculate distance matrix given point-process spike trains.
- Calculates theoretical information from spike timing to be used in classification.

Web-dataviewer (JavaScript, Python)

<https://github.com/NeuroPyPy/web-dataviewer>

- Web-based data visualization and sharing template.
- Used to build locally hosted data sharing websites.

EDUCATION

Bachelor of Science in Integrative Neuroscience & Psychology

State University of New York at Binghamton, 2018 | Dean's list | Presidents Award

TECHNICAL SKILLS

Languages: Python, SQL, Java, C++, JavaScript, MATLAB, HTML, CSS

Frameworks: Node.js, Flask, TensorFlow, ReactJs, WebGL, Docker, Kubernetes

Databases: Oracle, MySQL, Google Cloud

Other: Git, Linux/Unix, Bash, Shell