

JOY ROY

Email: jor115@pitt.edu ♦ LinkedIn: [joy-roy-235b12144](https://www.linkedin.com/in/joy-roy-235b12144) ♦ Website: joyroy.org

EDUCATION

Ph.D. Biomedical Informatics , University of Pittsburgh School of Medicine	2020 - 2024
B.S. Bioinformatics and Computational Biology , University of Maryland Baltimore County	2015 - 2019
B.A. Mathematics , University of Maryland Baltimore County	2015 - 2019
Minor in Computer Science	

SKILLS

Technical	C/C++, Python, Bash, SQL, R, Matlab, LaTeX
Packages	Qt, Numpy, Pandas, Nipype, Scikit-learn, PyTorch, Seaborn, Networkx, Nibabel, FSL
Other	Agile development, Object Oriented Programming, Docker, Linux/Unix, Adobe Suite, Jira/Confluence, Google Cloud Platform, Git, ANTS, Data Visualization, Scientific Writing
Certification	Interim DOD Secret Clearance

EXPERIENCE

Senior Data Scientist Mayo Clinic	2025 - Present <i>Remote</i>
---	---------------------------------

- Design, implement, and evaluate generative AI solutions to enhance clinical workflows and decision support.

Health Informatics Scientist Henry M Jackson Foundation	2025 - 2025 <i>Bethesda, MD</i>
---	------------------------------------

- Designed a framework to harmonize heterogeneous research datasets into a centralized data lake, enabling downstream machine learning and analytics
- Led cross-disciplinary discussions with physicians, psychologists, and researchers to define requirements for data storage, integration, and longitudinal tracking
- Appointed to NICOE at Walter Reed Hospital with Interim DOD Secret Clearance

Graduate Research Assistant Pediatric Imaging Research Center, Children's Hospital of Pittsburgh	2020 - 2024 <i>Pittsburgh, PA</i>
--	--------------------------------------

- Developed custom commandline software using Bash, Python, and Docker.
- Developed, trained, and evaluated machine learning models, including Random Forests and Convolutional Neural Networks, to derive predictive insights from large medical imaging datasets.
- Conducted advanced statistical analysis and data preprocessing on medical data, identifying patterns and trends within clinical populations to drive research findings.
- Automated MRI preprocessing pipelines with custom Python scripts, utilizing libraries such as FSL and NumPy to perform tasks like segmentation, registration, and data normalization.
- Trained deep learning models on Google Cloud Compute Engine and Slurm-based HPC clusters.

Software Engineer Hughes Network Systems	2019 - 2020 <i>Gaithersburg, MD</i>
--	--

- Designed and implemented real time software for protocols, algorithms, and products using C/C++
- Researched and tested system solutions to make applications perform optimally over IP-based wireless networks.
- Maintained Jenkins pipelines for automated unit testing and continuous integration and continuous development.
- Developed shell scripts on Linux to automate workflows