William Reynolds

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EDUCATION

University of Pittsburgh Department of Biomedical Informatics

Graduate Student   *2019-09 – Present*

> **Research Advisor:** Dr. Ashok Panigrahy M.D.
> **Focus:** Fetal Brain Growth, Development, and Trajectory

University of Pittsburgh Dietrich School of Arts and Sciences

Bachelor of Science   *2011-09 – 2015-04*

> **Major:** Molecular Biology with Concentration in Biochemistry
> **Minor:** Chemistry

SKILLS

LANGUAGES
- **Proficient Languages:** Python, Java, R
- **Familiar Languages:** SQL, PostgreSQL, MATLAB
- **Limited Exposure:** C++, Java Swing

TECHNOLOGIES
- **Tools:** Jupyter Notebooks, JupyterHub, Docker
- **Python Libraries:** Numpy, Pandas, Scikit Learn, Matplotlib, Seaborn
- **R Libraries:** Dplyr, Tidyverse, CARET

EXPERIENCE

University of Pittsburgh - Department of Biomedical Informatics   Pittsburgh, Pennsylvania

Graduate Student   *2019-09 – Present*
- Developed and programmed fetal registration pipeline for applying known fetal atlas onto MR images
- Studied risk factors for fetal growth trajectory within fetal and infant time periods
- Built tools for automated registration of fetal BOLD images

University of Pittsburgh - Department of Radiology   Pittsburgh, Pennsylvania

Research Specialist   *2016-06 – 2019-09*
- Performed software reconstruction of fetal SS-FSE MR images
- Edited manual segmentation of infant MRI scans
- Performed QA on MRI sessions to ensure correct data collection

University of Pittsburgh - Department of Developmental Biology   Pittsburgh, Pennsylvania

Research Technician   *2015-04 – 2016-06*
- Performed Episcopic Fluorescent Imaging Capture (EFIC)
- Mounted, imaged and analyzed Immunohistochemistry (IHC) slides for protein colocalization

CURRENT PROJECTS

- **Human and Mouse Neurodevelopment** - Study the growth similarities between human and mouse subcortical structures looking for similarities to better understand neurocognitive growth impairments
- **Fetal Trajectory** - Understand how fetal anatomy develops throughout development and attempt to predict which individuals will have abnormal development
- **Radiomic Feature Generation** - Assess if radiomics can be used for predicting structural volume classifications using different machine learning methods within Scikit-Learn

RELEVANT COURSEWORK

- **INFSCI 2595:** Machine Learning
  Utilize the R programming language to study Bayesian Inference and basics of machine learning
- **CS 2710:** Foundations Artificial Intelligence
  Learn theory and fundamentals of Artificial Intelligence and machine learning
- **INFSCI 2415:** Data Visualization
  Sharpen data visualization skills within big data, requiring special techniques to overcome limitations of memory management
- **STAT 2650:** Introduction to Bayesian Statistics
  Bayesian inference and statistical modeling including multi-level models, model checking and selection, stochastic simulation by Markov Chain Monte Carlo
- **CS 0445:** Algorithms and Data Structures 1
  Learn fundamentals of data structures and algorithms using JAVA
- **CS 1501:** Algorithms and Data Structures 2
  Learn algorithmic optimization through complex problem solving