

KEITH CAROLUS

Buffalo, NY 14224

contact@keithcarolus.com | keithcarolus.com | linkedin.com/in/keithcarolus | github.com/CosmicVarion

EDUCATION

Bachelor of Science in Computer Engineering

University at Buffalo | 2018 (expected)

3.75 GPA

General Education

Jamestown Community College | 2014

3.81 GPA - 53 credits obtained while in high school

EXPERIENCE

Buffalo Neuroimaging Analysis Center

Undergraduate Research Assistant | February 2015 – Present

As a member of the Human Connectome research team headed by Dr. Michael Dwyer, I have developed my own project investigating Wallerian degeneration in multiple sclerosis in collaboration with Cornell University. I am currently analyzing data from a 100 patient, 5-year, longitudinal study for publication.

Awarded a grant for computer technology upgrade in the Kenneth M. Alford Medical Education Center

Submitted abstract to the American Academy of Neurology conference 2017

Publication imminent

Previous work:

- Adapted Human Connectome Project image processing protocols in Bash for BNAC imaging modalities with Dr. Dwyer, leveraging AWS for GPU parallelization
- Explored regression techniques to develop a mapping between T1w and T2w MRI images

Poster Presentation

Carolus, K., Fuchs, T., Dwyer, M., Zivadinov, R. Mapping the Connectome in Multiple Sclerosis, Innovations in MRI Imaging. SUNY Undergraduate Research Conference, Cobleskill, NY, USA, 2016.

Empire Genomics

ISFTP Fellow | Summer 2016

Developer for a Buffalo pharmaceutical startup focused on personalized medicine.

- Developed a cytogenetics testing information management system
- Automated accessioning from the previous system via web scraping in Java
- Dynamic user interface involving HTML/CSS, Foundation, PHP and Javascript including jQuery and AJAX
- Automated error reporting processes and internal monthly reporting

University at Buffalo, Department of Computer Science and Engineering

Undergraduate Teaching Assistant | September 2015 – Present

Support Introduction to Computer Science I and II.

- Teach recitations attended by approximately 100 students 10 hours per week to review course material and assist students in completing weekly object oriented programming projects in Java
- Hold open office hours, provide review sessions, and invigilate examinations

TECHNICAL PROFICIENCIES

Platforms: Linux, Windows, OS X, Android

Languages: Java, Python, JavaScript, PHP, C/C++

Applications: Eclipse, PyCharm and Android Studio (IntelliJ), Microsoft Office

Other: Jupyter/IPython, Git, MATLAB, VirtualBox, HTML/CSS, SQL, JUnit

EXTRACURRICULAR ACTIVITIES

- First Place, UB CS Ed Week Demo competition, Arduino LED Connect Four with Bluetooth Controller
- Selected member of Department of Computer Science and Engineering Undergraduate Student Advisory Board
- Recommended and selected for Spark, the University at Buffalo's internationally competitive fellowship and scholarship preparation program
- Member of the University at Buffalo Honors College and Honors Peer Mentor
- Member of ACM and IEEE, participate in skills building workshops and social events including UB Hacking
- Cornell University Cooperative Extension after school program mentor for high risk youth - encourage interest in science, technology, engineering, and math