KEITH CAROLUS

Buffalo, NY
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EDUCATION

Bachelor of Science in Computer Engineering
University at Buffalo | 2018 (expected)
3.75 GPA

General Education
Jamestown Community College | 2014
3.81 GPA - 62 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 to encourage interest in science, technology, engineering, and math