Christina Gancayco

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Software Engineering Apprenticeship (Branch Out Program)

Work Experience

University of Virginia Research Computing   Sep 2017-Present
Research Computing Associate

- Collaborate with UVa faculty members to accelerate their research with advanced computing technologies such as machine learning, automated image processing, and high performance computing
- Help researchers determine which computing environments and resources they need for their work
- Develop and teach introductory to intermediate level Python, MATLAB, and bash workshops
- Contribute content to and assist with maintenance of the team's websites hosted in Amazon S3

Select Research Projects

- ***Predicting Injury Severity for Trauma Triage in Older Adults***
  Older adults are a rapidly increasing proportion of motor vehicle occupants and previous studies have demonstrated that this population is more susceptible to traumatic injuries. The objective of this study was to determine if the accuracy of regression-based injury severity prediction algorithms decreases for older adults.
  Primary Contribution: Writing scripts in R for data cleansing and manipulation, developing injury prediction models with logistic regression, and creation of intuitive visual representations of the results

- ***Determining Emergency Triage Levels with Machine Learning***
  Before patients are admitted to the emergency department (ED), they are assigned a triage level based on the severity of their health problems. The objective of this study is to use machine learning to develop a model to predict patient triage level with an accuracy greater than 90%.
  Primary Contribution: Writing scripts in R for data cleansing and manipulation; developing and training machine learning models using TensorFlow; visualizing results with Python

University of Virginia, Department of Radiology—Functional Neuroradiology Lab   Aug 2015-Aug 2017
Research Specialist

- Wrote MATLAB and R scripts to perform statistical and machine learning analyses of brain imaging data
- Utilized MATLAB, R, and Excel to display results graphically and presented findings to Principal Investigator
- Supported and guided Parkinson's Disease patients participating in the lab's movement disorder studies
- Learned to use new analysis tools and programming languages quickly to meet the needs of the lab

Duke University, Center for Cognitive Neuroscience   Sep 2013-Jul 2015
Lab Manager and Associate in Research

- Led preparation of Individual Differences battery of psychological surveys and subsequent data collection
- Recruited participants for and administered visual attention experiments
- Developed experiments for Amazon Mechanical Turk using HTML, CSS, and JavaScript
- Analyzed behavioral and eye tracking data using MATLAB and Excel

Volunteer Experience

Mentor, Computers4Kids, Charlottesville, VA   Jan 2016-Aug 2018
Worked with youth members of the Charlottesville community on STEM activities
Mentor, FEMMES: Females Excelling More in Math, Science, and Engineering, Durham, NC   Aug 2010-May 2013
Taught science and math concepts to girls aged 9-11 at local elementary schools

Education

BSE in Biomedical Engineering, Duke University, Durham, NC   Graduation Date: May 2013

Technical Skills

- Proficient in R, Python, MATLAB, bash, Git, Markdown
- Learning Docker, AWS