Steven Macauda

steven.macauda@gmail.com ❖ (708) 674-5912 ❖ Brooklyn, NY ❖ smacauda.github.io

SKILLS & INTERESTS

- **Skills:** Python; C++; MS Excel; data visualization; SQL; Scala; Hadoop; Spark; machine learning; Latex; Git; Java; JavaScript; PyTorch; TensorFlow; R; HTML; CSS
- **Interests:** guitar; physics; math; craft beer; cooking; The Simpsons; Seinfeld; LOTR; basketball; hiking

WORK EXPERIENCE

University of Illinois at Chicago **Dec. 2014 – Sep. 2017**
Research Assistant *Chicago, IL*

- Performed quality testing on 100s of pixel detector modules for installation in the CMS detector at CERN, leading to a **10% improvement** in tracking parameters.
- Wrote and maintained Python and C++ scripts to monitor data quality.
- Analyzed LHC detector output at the Fermilab LPC and documented anomalous results.
- Utilized data visualization techniques in C++ and Python to present results at weekly meetings.

Multiple Companies **Sep. 2017 – Present**
Tutor *Brooklyn, NY*

- Instruction provided in college level physics, mathematics, and computer science.

EDUCATION

University of Illinois Chicago **May, 2016**
BS, Physics *Chicago, IL*

- **Seymour Margulies Scholarship:** awarded to the student who receives the highest grade in upper level electromagnetism course.
- Completed **CMS Data Analysis School (2016)** at the **Fermilab LPC**.

University of California **Sep. 2017 – Jan. 2019**
PhD Student in Physics *Davis, CA*

- **Key Courses:** Quantum Field Theory, Statistical Mechanics, Experimental Methods, Mathematical Methods

PROJECTS

Predict Customer Propensity to Buy an iPhone Based on Past Spending Habits

- Trained kNN classifier to 93% accuracy and logistic regression to 91% accuracy to predict which customers bought iPhones.

Bike Demand Prediction

- Bike sharing data from Washington, DC. Trained random forest to determine demand per hour of bicycles at city bicycle stations with a mean absolute error of 1.26.

Sentiment Analysis of Amazon Reviews

- Used Amazon review data to classify tweets into positive and negative sentiment categories using NLP.

PUBLICATIONS

- "*The DAQ and Control System for the CMS Phase-1 Pixel Detector Upgrade*", W. Adam *et al* (2019) JINST **14** P10017
- "*Precision Measurement of the Structure of the CMS Inner Tracking System Using Nuclear Interactions*" CMS Collaboration (2018) JINST **13** P10034