Burton DeWilde

646-241-2381 / burtondewilde@gmail.com / bdewilde.github.io

Professional Experience

Data Scientist   **Dec 2012 – Present**

Harmony Institute / New York, NY

Engaged in rigorous, quantitative social science research on the impact of narrative media on individuals and society. Responsible for the full spectrum of data tasks: collection, cleaning, transformation, maintenance, analysis, visualization, and communication. Collaborated with a full-stack web developer to create a data-driven web app. Specialized in web scraping, natural language processing, social network analysis, and NoSQL database management.

Co-Producer, Director of Photography, and Editor: "Decay"   **Mar 2011 – Dec 2012**

H2ZZ Productions / www.decayfilm.com

Managed cast and crew of 30+ people in making feature-length, physics-themed zombie movie. Filmed on-site at CERN. Edited in Adobe Premiere Pro. Actively contributed to all aspects of production and post-production, from casting to scheduling, visual effects to marketing.

Particle Physics Research Assistant: ATLAS Experiment   **May 2008 – Aug 2012**

Stony Brook Physics & Astronomy Department / Stony Brook, NY

European Organization for Nuclear Research (CERN) / Geneva, Switzerland

Tested hardware and contributed to development of C++ based data acquisition/analysis software for prototype silicon sensors. Primary analyst in search for hypothetical particles called "leptoquarks": optimized signal selection criteria, computed multivariate discriminant, performed extensive statistical and systematic error analysis. Developed and maintained a Python-based, batch-processing data analysis framework to handle large datasets.

Teaching Assistant: Physics for Life Sciences I & II   **Sep 2007 – May 2008**

Stony Brook Physics & Astronomy Department / Stony Brook, NY

Led two weekly laboratory sessions of 25 students each. Assisted students with homework assignments, graded lab reports, and proctored and graded exams.

Education

Stony Brook University / Stony Brook, NY   **Aug 2007 – Aug 2012**

Ph.D. in Physics

Kalamazoo College / Kalamazoo, MI   **Sep 2003 – Jun 2007**

B.A. in Physics and Spanish, minor in Applied Math; *Summa cum Laude*, Honors in Physics

Technical Skills

- General programming in Python, JavaScript, and C++
- Statistical analysis, modeling, and machine learning in the PyData stack, R, and ROOT; particular experience with web scraping and crawling, natural language processing, social network analysis
- Data visualization using Python's matplotlib and seaborn, R's ggplot, and d3.js
- Static web development using HTML/CSS, Jekyll, and Markdown
- Database design and management, both relational (mySQL) and non-relational (MongoDB)
- Word processing in Microsoft Office, Apple iWork, and LaTeX; image/video processing in Adobe Photoshop, Premiere Pro, and After Effects
- Excellent written and verbal presentation skills: lead author on multiple publications, speaker at many conferences and seminars, web blogger (Quantum Diaries and personal website)
- Proven ability to acquire new technical skills, analyze large datasets, clearly visualize data, and work both collaboratively and independently

List of references and publications available upon request.