Sebastián Hurtado Parra, Ph.D.

Philadelphia, PA

Email: sebastianh25@gmail.com
Cell: (xxx) xxx–xxxx
LinkedIn: linkedin.com/in/sebastian-hp

Experience

Data Scientist — Philadelphia, PA
Axalta Coating Systems — *2022–present*

- Supported first principles and neural network models used in customer-facing production environments, including data querying/cleaning pipelines from chemical formulation databases and model training routines
- Developed computer vision algorithms for colored texture recognition, aimed at embedded system deployment in upcoming commercially available instrumentation for customers
- Created data management and visualization tools for in-house and customer systems
- Communicated business impact of technical achievements with stakeholders across business segments

Research Assistant — Philadelphia, PA
University of Pennsylvania — *2016–2022*

- Performed custom nonlinear regression analysis on data, and incorporated signal transformation and data cleaning pipelines in Python and LabVIEW using e.g. singular value decomposition
- Developed real-time image analysis LabVIEW software including gradient descent minimization of image overlap, which reduced storage cost by 100x, and improved data collection time and quality by 2x
- Collaborated with research groups within and outside the university to create custom measurement solutions and solve complex research problems, leading to 8 peer-reviewed publications

Skills

Languages: (Proficient) Python, LabVIEW; (Basic) Bash, C/C++, MATLAB, Java, SQL
Tools: (Proficient) Git, Matplotlib, Numpy, Pandas, Scikit-Learn, Scipy, LaTeX, Linux sysadmin; (Basic) OpenCV, TensorFlow/Keras, Flask
Other: Hypothesis testing, experimental design, numerical methods
Linguistic: Native fluency in English and Spanish

Projects/Other

eyeHUD: Smart window application for bright object occlusion, utilizing Python OpenCV facial recognition. Won 3rd place at PennApps XIV (devpost.com/software/eyehud)

Cryptoino: Lightweight cryptographic key exchange using tree parity neural networks for low-power devices. Prototyped with Python, deployed in C. Top 30 at PennApps XV (devpost.com/software/cryptoino-4ax1tk)

NFL Scores: Quantitative analysis on effect of home field advantage in the NFL. Built Python data pipeline incorporating web scraping, data analysis, and visualization (sebastianhp.com/NFL_HomeFieldAdvantage.html)

MatTrack: Particle tracking image analysis MATLAB library developed as part of undergraduate research project (github.com/sebastianhp/MatTrack)

Awards & Honors

UPenn: Arnold M. Denenstein Prize (physics.upenn.edu/index.php/news/sas-student-prizes-and-awards) *2019*
PennApps XV: Cryptoino, Top 30 *2017*
PennApps XIV: eyeHUD, 3rd Place & Winner of Best Public Safety or Video Processing App *2016*

Education

University of Pennsylvania — Philadelphia, PA
Ph.D. in Physics — *June 2022*

Saint Joseph's University — Philadelphia, PA
B.S. in Physics and Mathematics — *May 2015*