

SEBASTIÁN HURTADO PARRA, PH.D.

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EXPERIENCE

Data Scientist

Axalta Coating Systems

Philadelphia, PA

2022–present

- Supported first principles and neural network models used in customer production environments, including data querying/cleaning pipelines from chemical formulation databases and model training
- Developed computer vision algorithms for colored texture recognition in embedded system deployment
- 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, Ph.D. Candidate

University of Pennsylvania

Philadelphia, PA

2016–2022

- Performed custom nonlinear regression analysis on data, and incorporated signal transformation and data cleaning pipelines in Python
- 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, Pytest, TensorFlow/Keras, Flask, SQLAlchemy/pyodbc

Other: Hypothesis testing, experimental design, numerical methods, machine learning, computer vision

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

Ph.D. in Physics

Philadelphia, PA

June 2022

Saint Joseph's University

B.S. in Physics and Mathematics

Philadelphia, PA

May 2015