PHILIP S. COWPERTHWAITE, PHD

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EXPERIENCE

Data Scientist

Fish & Richardson P.C.

May 2021 – Present | Washington, D.C.

- Develop cutting-edge Natural Language Processing models for the classification of legal documents and employee time card data.
- Develop and maintain internal machine learning-driven tools to assist team with the management of help desk tickets and related tasks.
- Engineer data models to populate dashboards and promote data-driven decision making for management and stakeholders.
- Establish best practices and infrastructure for Python projects, including refactoring and optimization of existing code base.
- Lead the development of an end-to-end ML Ops life cycle using both on-premises and cloud resources to monitor and serve models.

NASA Hubble Postdoctoral Fellow

Observatories of The Carnegie Institution for Science

September 2018 – May 2021 | Pasadena, CA

- Develop and maintain secure web frameworks to manage and distribute critical data products to project team.
- Lead machine-learning efforts to effectively parse large data sets and identify key research opportunities.

NSF Graduate Research Fellow

Center for Astrophysics, Harvard University

September 2013 – August 2018 | Boston, MA

- Developed data analysis pipelines to efficiently survey and process massive sets of telescope image data on rapid timescales.

EDUCATION

Ph.D. Astronomy & Astrophysics

Harvard University

September 2013 – May 2018

- **Thesis:** From Design to Detection: Joint Gravitational Wave and Electromagnetic Astronomy
- **Awards:** Fireman Thesis Prize, Harvard Horizons Finalist

B.Sc. Astronomy and B.Sc. Physics

University of Maryland, College Park

September 2009 – May 2013

- Double B.Sc., *Summa Cum Laude*, Minor: Mathematics
- **Awards:** High Department Honors (Astronomy), University Medal Finalist, J.R. Dorfman Prize for Outstanding Undergraduate Research.

ABOUT ME

"I use large data sets and cutting-edge models to answer some of the most difficult questions in the Universe."

SKILLS

- **Programming:** Python, C/C++/C#, R.
- **Modeling:** PyTorch, TensorFlow, Scikit-learn, Transformers, spaCy
- **Data:** Pandas, Dask, SQL, Azure Synapse.
- **MLOps:** Azure ML, AutoML, MLflow, HyperOpt, Continuous Learning.
- **DevOps:** Git, CI/CD pipelines, Docker, K8s, Agile and Test-Driven Development.
- **Development:** PyCharm, DataSpell, Jupyter, Conda, PyTest/tox, VSCode
- **Reporting:** Power BI, Plotly Dash, Seaborn, Bokeh Prometheus, Grafana
- **Productivity:** Windows/mac OS/Linux, Adobe Suite, Microsoft Suite, TeX/LaTeX.
- **Leadership:** Project Management, Wrike, Productive mentoring and pedagogy.

PUBLICATIONS

I am an author on over 50 scientific publications with 8000 citations.

PREVIOUS LIFE

I worked in commercial photography at Brendan Mattingly Photography in Washington, D.C., where we produced award-winning advertising photography for both local and national businesses.

HOBBIES

- Photography, Reading, Playing drums.
- Playing and designing both tabletop role-playing games and board games.
- Training and studying martial arts, strength training, rowing.