

Joseph A'Hearn, PhD

Data Scientist

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SUMMARY

- Results-oriented data scientist with experience as the technical lead and support on building two AI/ML-enabled business products currently being used in production, one of which won a company-wide award.
- Problem-solving skills and extensive experience in scientific programming using Python, resulting in the completion of 18 programming-related projects.
- Strong oral and written communication skills with an ability for data storytelling in both analytical and concise formats to both technical and non-technical audiences, as evidenced by 54 successful presentations and talks, including an award-winning poster.

EXPERIENCE

Data Scientist

06/2022 — Present

PACCAR Information Technology Division

Renton, WA

- Rebuilt the PACCAR Pricing Tool, including restructuring and rewriting Python and SQL code, documentation, implementation of DVC (Data Version Control from Iterative AI), replacement of Machine Learning algorithms, and overseeing the development of improved Tableau dashboards for overall improved performance and increased trust from stakeholders.
- Worked on active development and support for PACCAR's Warranty AI Auto-Adjudication, which includes regression, classification, and clustering models to automate some decisions and otherwise provide decision support for warranty analysts by giving statistical context, identifying parts needing to be returned, and flagging anomalous warranty claims. The Warranty AI-Decision Support and Automation tool won the 2024 PACCAR Six Sigma Award for Project of the Year (1st place out of 36 submissions).
- Implemented an end-to-end Machine Learning project pipeline, fetching data from Snowflake, predicting interest rates using a Decision Tree Regressor, running the code on a GCP instance, versioning the project with GitHub and DVC, running it on GitHub Actions, and setting up an API endpoint.
- Experimented on my commuting data and sleep data with various techniques for data processing in Pandas and for regression problems in Machine Learning, including seasonality studies.

Planetary Scientist

01/2017 — 06/2022

Research Assistant in Physics at University of Idaho

Moscow, ID

and Summer Research Intern at NASA Jet Propulsion Laboratory

Virtual

- Built models in Python using advanced mathematical tools such as differentiation, integration, Fourier analysis, Gaussian elimination, and least-squares optimization for regression models to assess system stability and aid mission planning through 12 projects.
- Developed algorithms for optimization, regression, and classification problems to propel innovative ideas and test hypotheses, leading to the publication of 5 peer-reviewed scientific papers, 3 as first author.
- Presented results, including 5 novel discoveries, to the scientific community using data storytelling techniques through 2 invited talks and 15 conference presentations.

CERTIFICATES

Neural Networks and Deep Learning, *Coursera*
Data Scientist Syndicate Trained Associate, *Cheeky Scientist Association*
Machine Learning Scientist in Python, *DataCamp*
Data Scientist in Python, *DataCamp*

Python Programmer, *DataCamp*
Data Analyst in SQL, *DataCamp*
Introduction to Python, *edX/Georgia Tech*
Analytics: Essential Tools and Methods
Micromasters Program, *edX/Georgia Tech*

EDUCATION

Ph.D. in Physics, *University of Idaho*, Moscow, ID, with a focus in Astrophysics & Planetary Science May 2022

PROJECTS

- PACCAR Pricing Tool (in production)
- PACCAR Warranty AI - Decision Support and Automation Tool (in production)
- Predicting Failure to Minimize Business Cost (Hackathon)
- Predicting Interest Rates with an End-to-End Pipeline (Workshop)
- Optimizing My Schedule Using ML on My Commuting Data
- Analyzing Correlated Features to Improve My Sleep
- Predictive Modeling in Healthcare: Classifying Patient Risk Using Lifestyle and Medical Data (*Data Analytics for Business Group Project*)

TECHNICAL SKILLS

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|--|---|-----------------------------|--|
| • Machine Learning (Scikit-learn, XGBoost, LightGBM, etc.) | • R | • Git | • Microsoft Office (Excel, Word, PowerPoint) |
| • Python (NumPy, Pandas, Matplotlib, Seaborn, etc.) | • C++ | • GitHub (Copilot, Actions) | • LucidChart |
| | • SQL (Postgres) | • \LaTeX | • Jira |
| | • Cloud Computing (GCP with Vertex AI, AWS) | • Terminal | • Snowflake |
| | | • Tableau | |

LANGUAGES

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|--------------------|------------------------|------------------------------------|
| • English (native) | • Italian (proficient) | • Classical/Koiné Greek (advanced) |
| • Spanish (fluent) | • Latin (advanced) | |

AFFILIATIONS & HOBBIES

- American Astronomical Society (Astronomers Turned Data Scientists), Society of Catholic Scientists
- Chess, baseball/softball, strength training, hiking
- Continuous learning through books, audiobooks, and podcasts