Karl Jaehnig

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∘ linkedin.com/in/karljaehnig ∘ https://kjaehnig.github.io

• Analytical • Collaborative • Creative • Focused • Innovative

SKILLS

Programming	Python (2/3) (Numpy, SciPy, Tensorflow, Keras, Sci-kit Learn, Pandas), Rstudio
Analytics	Bayesian inference, Descriptive statistics, Segmentation, Predictive-analysis
Machine Learning	Data mining, Data processing, Clustering, Classification, Regression, Mixture Models, Random Forests, Gaussian Processes, MCMC, MLE, Neural Networks (Bayesian, Convolutional, LSTM), NLP
Software Dev	Github, Jupyter, Docker, Colab
Databases	SQL, SQLite-3
Visualization	Matplotlib, Bokeh, Seaborn, Plotly, Glue-Viz
Languages	Primary English Speaker, Spanish

CERTIFICATIONS

Correlation-One DS4A, **Alteryx** Machine Learning Fundamentals, **Alteryx** Foundation

EXPERIENCE

Researcher, *Vanderbilt University, Nashville, TN* Jan 2022 - Aug 2023

- Achieved less than 3% error with constructed flexible Bayesian inference framework for time-series data
- Built hierarchical Bayesian model for population parameter estimation
- Designed neural network regression model for spectral data analysis

Data Scientist, *Flatiron Institute, New York City, NY* Aug 2021 - Jan 2022

- Deployed flexible maximum likelihood algorithm in data processing pipeline
- Leveraged Gaussian process models for remove noise from sparse multi-sourced time-series data
- Created optimized python software for teaching astronomy classes

Graduate Researcher, *Vanderbilt University, Nashville, TN* Jan 2019 - Aug 2021

- Created automated clustering pipeline for noisy data with greater than 95% accuracy
- Increased cluster member identification sensitivity by 11%
- Implemented written python code to automate hundreds of custom SQL queries
- Performed outlier detection of clusters with probabilistic graph analysis

Graduate Lecturer, *Vanderbilt University, Nashville, TN* Aug 2017 - Jan 2019

- Increased anomaly detection sensitivity in non-linear model to 4 sigma
- Constructed 95% accurate Bayesian time-series Monte Carlo inference model with augmented data
- Lectured astrophysics class with over 100 students
- Lead weekly technical observatory classes and maintained optical equipment

EDUCATION

Doctorate, Astrophysics
Vanderbilt University 2017 - 2023

Master of Science, Physics
Fisk University 2015 - 2017

Bachelor of Science, Astronomy
University of Florida 2007 - 2011