Eric Crisp

Contact Information
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Education

University of Pennsylvania, Philadelphia, PA — Jan 2025 - Dec 2025
M.Sc., Data Science

Pennsylvania State University, State College, PA — Aug 2015 - May 2021
M.Sc., Mechanical Engineering
B.Sc., Aerospace Engineering

Technical Skills

Programming	**Data Science, AI/ML**	**Tools & DevOps**
`Python, C++, MATLAB`	`TensorFlow, PyTorch, Scikit-learn`	`Docker, AWS, CI`
`JavaScript`	`SQL, Spark, Pandas, Numpy`	`Git, React, Node`

Summary

I am looking to transition into a role related to AI development. I am grateful to have had many opportunities throughout my career to develop engineering, communication, analytical skills along with leadership experience that blend well with the foundational AI/ML skills and knowledge developed at the Penn.

Experience

Aerospace Engineer III, Real-Time Modeling — Apr 2022 – Nov 2024
Blue Origin, Seattle, WA

- Led a small, multi-disciplined team responsible for all RTM (real-time model) activities across Blue Origin.
- Developed RTMs for use in HIL, test support, controller development, and requirements validation including trade studies and performance optimization.
- Served as RTM project manager from project conception by managing scope, deliverables, and deligation.
- Identified critical software bugs on flight HIL systems via RTM integration, increasing reliability and value.
- Reduced testing manpower requirements by up to 35% with RTM, accelerating development timelines.
- Effectively communicated the value and impact of technical outcomes from RTM to both technical and non-technical steakholders.
- Architected the RTM framework and developed source code, tooling, supporting algorithms and solvers.

Propulsion Development Engineer, Combustion Devices — May 2021 – Apr 2022
Firefly Aerospace, Austin, TX

- Developed an automated thermal-structural design process that reduced engine production costs by 12%.
- Contributed to clean sheet engine design through production, exceeding performance requirements by 4%.
- Conducted root cause investigations of failures and implementated systematic and engineering solutions.
- Enhanced engine test visibility with automated visualizations of the engine state relative to test sequence.

Personal and Academic Projects

Fundamental Physics Models from Physics Informed Neural Networks — Jul 2025 – Present

- Investigating neural-symbolic approaches that combine Physics-Informed Neural Networks (PINNs) with transformer-based code generation models to model physical situations.
- Developing neural networks to automatically generate simulation code for simple physics problems, leveraging deep learning to bridge theoretical physics with computational implementation.
- Creating evaluation framework to identify where AI-generated simulations violate fundamental conservation laws (energy, mass, momentum), providing insights into model limitations in implementing within scientific computing domains.

Machine Learning Pipeline for Food Classification and Health Scoring — May 2025 – Jul 2025

- Built an end-to-end ML pipeline to classify food items and generate health scores using supervised learning algorithms, with model optimization through GridSearchCV hyperparameter tuning achieving 91% accuracy on test data.
- Implemented comprehensive data preprocessing using Pandas for large-scale dataset manipulation, NLP techniques for ingredient text processing and nutritional analysis, normalization, imputing, and encoding for PCA analysis and created visualizations with Seaborn and Matplotlib to present process results.

Awards and Activities

Blue Origin Engines Challenge Award — Jul 2022
Awarded for technical successes in developing the real-time modeling capabilities at Blue Origin.