

# Eric Crisp

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CONTACT INFORMATION	<div><a href="mailto:ecrisp@upenn.edu">ecrisp@upenn.edu</a> (302) 528-2477</div> <div><a href="https://ericmcrisp.github.io/pages">ericmcrisp.github.io/pages</a> <a href="https://linkedin.com/in/ecrisp">linkedin.com/in/ecrisp</a></div>		
EDUCATION	<b>University of Pennsylvania</b> , Philadelphia, PA <b>M.Sc., Data Science</b>		Jan 2025 - Dec 2025
	<b>Pennsylvania State University</b> , State College, PA <b>M.Sc., Mechanical Engineering</b> <b>B.Sc., Aerospace Engineering</b>		Aug 2015 - May 2021
TECHNICAL SKILLS	<b>Programming</b> Python, C++, MATLAB JavaScript	<b>Data Science, AI/ML</b> TensorFlow, PyTorch, Scikit-learn SQL, Spark, Pandas, Numpy	<b>Tools &amp; DevOps</b> Docker, AWS, CI 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	<b>Lead Aerospace Engineer, Real-Time Modeling</b> <b>Blue Origin, Seattle, WA</b> <ul style="list-style-type: none"><li>• Led a small, multi-disciplined team responsible for all RTM (real-time model) activities across Blue Origin.</li><li>• Developed RTMs for use in HIL, test support, controller development, and requirements validation including trade studies and performance optimization.</li><li>• Served as RTM project manager from project conception by managing scope, deliverables, and delegation.</li><li>• Identified critical software bugs on flight HIL systems via RTM integration, increasing reliability and value.</li><li>• Reduced testing manpower requirements by up to 35% with RTM, accelerating development timelines.</li><li>• Effectively communicated the value and impact of technical outcomes from RTM to both technical and non-technical stakeholders.</li><li>• Architected the RTM framework and developed source code, tooling, supporting algorithms and solvers.</li></ul>		Apr 2022 – Nov 2024
	<b>Propulsion Development Engineer, Combustion Devices</b> <b>Firefly Aerospace, Austin, TX</b> <ul style="list-style-type: none"><li>• Developed an automated thermal-structural design process that reduced engine production costs by 12%.</li><li>• Contributed to clean sheet engine design through production, exceeding performance requirements by 4%.</li><li>• Conducted root cause investigations of failures and implemented systematic and engineering solutions.</li><li>• Enhanced engine test visibility with automated visualizations of the engine state relative to test sequence.</li></ul>		May 2021 – Apr 2022
PERSONAL AND ACADEMIC PROJECTS	<b>Fundamental Physics Models from Physics Informed Neural Networks</b> <ul style="list-style-type: none"><li>• Investigating neural-symbolic approaches that combine Physics-Informed Neural Networks (PINNs) with transformer-based code generation models to model physical situations.</li><li>• Developing neural networks to automatically generate simulation code for simple physics problems, leveraging deep learning to bridge theoretical physics with computational implementation.</li><li>• 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.</li></ul> <b>Machine Learning Pipeline for Food Classification and Health Scoring</b> <ul style="list-style-type: none"><li>• 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.</li><li>• 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.</li></ul>		Jul 2025 – Present  May 2025 – Jul 2025
AWARDS AND ACTIVITIES	<b>Blue Origin Engines Challenge Award</b> Awarded for technical successes in developing the real-time modeling capabilities at Blue Origin.		Jul 2022