

Stanislav DeLaurentiis

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SKILLS

Languages: Python, C++, CUDA, JavaScript/TypeScript, SQL

Frameworks & Tools: PyTorch, Weights & Biases, Docker, React, Git

Infrastructure: GPU/HPC clusters, real-time inference pipelines, RTMP streaming

Domains: VLM/LLM systems, tabular deep learning, computational physics, multimodal AI

INDUSTRY EXPERIENCE

Eigen | *AI-Powered SOP Compliance for Manufacturing*
Co-Founder & CEO

Oct 2025 – Mar 2026

- Architected and deployed a revenue-generating, real-time VLM video analysis system verifying operator SOP adherence on active factory floors; built full hardware-to-inference pipeline from Shenzhen-sourced cameras through RTMP streaming to a proprietary multi-step visual reasoning harness around Gemini
- Deployed to supervisors at two mid-market U.S. manufacturers (~350 and ~300 employees); ran on-site user research including factory floor observation and operator interviews to iterate system performance
- Led 5-person team; owned product direction and Aerospace and Defense expansion strategy

Avera Labs | *Creative Intelligence for Enterprise*
Founding Engineer & First Hire

May – Oct 2025

- Built end-to-end multimodal inference system: data ingestion, feature extraction across image/video/text, VLM orchestration, and structured output generation (audience scoring, reaction prediction, creative alternatives)
- Shipped to three enterprise clients (Bilt, Wander, Nourish); iterated model outputs against domain-specific evaluation criteria

Minerva | *ML for Behavioral Prediction*
ML Researcher

Sep 2024 – May 2025

- Benchmarked TabNet, FT-Transformer, and SAINT against gradient boosting baselines (XGBoost, CatBoost, LightGBM) for consumer transaction prediction on heterogeneous tabular data
- Designed novel cross-column and inter-row attention mechanisms extending SAINT's intersample attention to capture richer feature-sample interactions; implemented contrastive pre-training and denoising objectives for semi-supervised regimes

ACADEMIC RESEARCH

Columbia University | *Prof. Zoltan Haiman* | *High Energy Astrophysics*

2021 – 2025

- **First Author (2 papers, 50+ citations):** GPU-accelerated general relativistic hydrodynamic simulation codes for binary BH dynamics; discovered novel EM counterpart signals to LISA GW sources; derived analytical framework for binary formation via gaseous dynamical friction; designed finite-difference/volume numerical schemes for relativistic fluid dynamics on HPC clusters

University of Cambridge | *Prof. Roman Rafikov* | *DAMTP*

2023 – 2024

- MPhil Thesis: Investigated eccentricity growth and nonlinear dynamics in binary black hole hydrodynamic simulations using custom finite-difference numerical methods

PUBLICATIONS

Relativistic Binary Precession: Impact on Eccentric Binary Accretion and Multi-Messenger Astronomy — S. DeLaurentiis, Z. Haiman et al. (ApJ, 2025) — **First Author**

Gaseous Dynamical Friction as a Binary Formation Mechanism in AGN Discs — S. DeLaurentiis, M. Epstein-Martin, Z. Haiman (MNRAS, 2023) — **First Author, 60+ citations**

EDUCATION

Columbia University — Ph.D. Astronomy (On Leave)

University of Cambridge — M.Phil. Applied Mathematics and Theoretical Physics (DAMTP)

Sept 2024

Columbia University — B.A. Astrophysics, Honors, Magna Cum Laude

May 2023

AWARDS & FELLOWSHIPS

Hertz Fellowship Finalist (Top 5% U.S. STEM PhD, 2025) • **NSF Graduate Research Fellowship** (\$156K, 2023) • **Gates Cambridge Scholarship** (2023) • **Phi Beta Kappa** • **China-Bridge Mandarin Competition** (U.S. Team Rep, Global Top 20, 2018)