Jordi Del Castillo

+1 (469) 403-7476 | delcastillo.jordi@stern.nyu.edu | https://blueresearch.co/ | https://github.com/079035/

EDUCATION

B.S. in Computer Science**, New York University** *Sep 2021 – Jan 2025*
Minor in Mathematics

- **Relevant Courses**: Bayesian Machine Learning*, Deep Learning*, Software Development*, Linear and Nonlinear Optimization, Theory of Probability, Honors Linear Algebra, Mathematics of Finance, Statistics, Applied Analysis
- **Honors**: Dean's List ('22-'24), Brooklyn Math Modeling Group, NYU ML Club, Competitive Programming Club

EXPERIENCE

AI Engineer, uiAgent *Apr 2025 - Present*

- Joined as founding AI engineer (#5) and built high-throughput AI infrastructure and ETL data platform
- Engineered real-time data-intensive agentic AI workloads through heavy parallelization of CPU resources
- Developed high-throughput token-aware model inference Redis queue system and novel serverless vector database

Machine Learning Engineer Intern, DRW *Jun 2024 - Aug 2024*

- Implemented physics-informed convolutional transformer with PyTorch for implied volatility surface prediction
- Processed high-frequency transaction data with Pandas and Numpy and interpolated IV onto discretized vol surface
- Regularized model output by adopting the Black-Scholes equation as the physics-informed term and weight decay

Software Engineer Intern, JPMorganChase *Jun 2023 – Aug 2023*

- Developed a news analysis pipeline with BERT and pretrained embedding layers (huggingface) for entity network
- Deployed Fast API and Oracle DB for constructing an ETL platform for news data pipeline on a Kubernetes cluster
- Spearheaded seamless migration of the firm's archive data from AWS to the ServiceNow cloud with ETL platform

Software Engineer Intern, Lockheed Martin *Jun 2020 – Dec 2020*

- Deployed machine vision applications into rovers utilizing NVIDIA DeepStream with AWS IoT Core
- Aided in clearing cloud migration backlogs to support rapid AWS migration for various government clients
- Constructed an AWS-hosted WordPress application to facilitate cloud migration support for developer teams

PUBLICATIONS

Comparative Study of the Ansätze in Quantum Language Models

***Jordi Del Castillo**, Dan Zhao, Zongrui Pei*

- Successfully published in the Advanced Quantum Technologies journal on quantum natural language processing
- Explored optimized parameterized quantum circuit generation methodologies for quantum NLP training tasks
- Created frameworks for selecting optimal hyperparameters for training a quantum binary classification model

ARVO: Atlas of Reproducible Vulnerabilities for Open Source Software

*Xiang Mei, **Jordi Del Castillo**, Pulkit Singh Singaria, Haoran Xi, Abdelouahab (Habs)Benchikh, Tiffany Bao, Ruoyu Wang, Yan Shoshitaishvili, Adam Doupé, Hammond Pearce, Brendan Dolan-Gavitt*

- Published a paper "ARVO" as a co-first author and submitted it to the 35th USENIX Security Symposium
- Built the largest known reproducible Dockerized database of 9000+ C/C++ open-source bugs and fixes
- Inferenced LLMs through model parallelism with deepspeed, achieved a 37% fix success rate on real-world data

PROJECTS

A Bayesian Framework for Single-Cell Gene Network Discovery with Contrastive Learning

- Preprocessed large-scale gene expression datasets for establishing ground-truth gene regulatory network data
- Performed dimensionality reduction (PCA/FA) and a novel soft nearest neighbor for bringing similar genes closer
- Trained a Gaussian Process classification model with GPyTorch for RNA-seq data and achieved 99.36% AUCROC

AWARDS

- USA Computing Olympiad, **Gold**
- Amazon CTF Competition, **1st ($10,000)**
- SCUDEM Math Modeling Competition, **Meritorious Award**
- Tandon Scholar, Alan Paller Honor Scholar

SKILLS

Languages: C++, Python, TypeScript, CUDA, JAX, x86_64 Assembly, Java, Julia, React

Technologies: Kubernetes, Docker, Pandas, Git, NumPy, PyTorch, TensorFlow, SciKit-Learn, NestJS, PostgreSQL, HuggingFace, gRPC, WebSocket, AWS, Flask, Fast API, FSDP, ONNX, RAG