

Oscar Depp

oscardepp@gmail.com | +1 (267)-902-7782 | www.oscardepp.com

EDUCATION

Northwestern University

Bachelor of Science in Applied Mathematics

Evanston, IL

September 2021-June 2025

- GPA: **3.98/4.00**; *Summa Cum Laude*; Tau Beta Pi Engineering Honor Society, Kellogg Certificate in Financial Economics
- Activities: Northwestern Capital Management, NU Aerospace, Club Tennis (A Team), Japanese Association (President)

Master of Science in Computer Science

September 2023-December 2025

- GPA: **4.00/4.00**

King's Academy (*Study Abroad*)

Madaba, Jordan

EXPERIENCE

Qube Research & Technologies (QRT)

Quantitative Research Analyst

London, UK

February 2026-

- Conducting alpha research on order book data for mid frequency stat arb strategies in global equities

PanAgora Asset Management

Quantitative Research Intern

Boston, MA

June-August 2025

- Modeled alternative investor preferences to uncover hidden asset roles (e.g., TSLA as tech) across multiple universes, boosting synthetic demand forecasts by 35% and guiding more targeted capital allocation
- Engineered end-to-end pipeline to generate transformer-based asset embeddings—spanning custom universe construction, masked-language-model training, and clustering—to generate novel factor signals used in production
- Scaled 10-year backtests by parallelizing workloads across GPU-enabled Azure Batch nodes, cutting validation runtimes from weeks to hours and enabling robust testing of momentum & relative value factors

Citigroup

Quantitative Analyst Summer Intern

NYC, NY

June-August 2024

- Designed a model estimating true trading volumes for capped corporate bond transactions, providing competitive quotes for clients
- Validated S&P framework assessing credit coverages in financing deals, quantifying risk characteristics in dynamic portfolios
- Simplified a capital charges model for Australian mortgages, demonstrating portfolio resilience through economic downturns
- Communicated model updates weekly to the structuring desk with a four-person team, ensuring accurate pricing for private deals

MAGICS Lab

Deep Learning Engineer

Evanston, IL

January 2025-Present

- Developed robust techniques for quantifying prediction uncertainty using diffusion models performed on HPC clusters, outperforming leading approaches on 8 of 11 regression tasks
- Demonstrated superior coverage and interval width vs. MC Dropout, Deep Ensembles, and Conformal Quantile Regression
- Lectured two PhD-level lectures on score-based diffusion models, denoising SDEs, flow matching frameworks, and analyzed how math foundations and focused system design underpin open-source AI roadmaps and long-term enterprise applications

Image and Video Processing Lab (IVPL)

Deep Learning Researcher

Evanston, IL

March 2024-Present

- Built a self-supervised machine learning pipeline for adaptive sampling in imaging, improving efficiency in 9/12 cultural heritage restoration tasks [ICIP 2025]
- Designed greedy adaptive sampling method for deep neural networks, minimizing count rate estimation errors
- Investigated and applied various denoising pipelines, including Gaussian and Poisson-based Total Variation (TV) losses and the Anscombe transform, to enhance signals in low-sample XRF datasets, leveraging NNs trained on datasets without clean targets

PROJECTS

NASA 2024 Big Idea Challenge Artemis Award Winner

December 2023-November 2024

- Received \$146,420.85 in funding to develop metal inflatable technology (METALS) for the Artemis Moon Mission by 2029
- Leading METALS combustion analysis team, refining design choices facilitating large-scale deployment from stowed configurations
- Integrating computational frameworks analyzing deformation failure across various geometries, mitigating detonation risks in testing

Refugee Resettlement Assistance Model (RRAM)

October 2023-February 2024

- Presented RRAM to State Department Refugee coordinator in the Middle East, informing refugee policy decisions on big data & ML
- Identified areas of improvement within Lebanon's informal settlements based on qualitative factors aligned with UNICEF standards
- Devised wellness scores for settlements from 12 key hygiene metrics, clustered through Gaussian Mixture Models & K-means
- Visualized settlement quality scores on an intensity-based map, prioritizing resettlement based on quality of life over proximity

SKILLS & INTERESTS

Awards: 2025 IMC Prosperity Challenge Global Top 10, 2025 Outstanding Senior Award in Applied Mathematics, J.S. & Helen James Scholar, 2023 McCormick Summer Research Award, 2022 Arabic Excellency Award, 2021 Segal Institute Design Award

Programming: Python, (PyTorch, Polars, Pandas, scikit-learn), C++, SLURM HPC, Azure Batch, Git, R, MATLAB, CAD, Docker

Languages: Fluent in English, Japanese, Chinese, Arabic

Interests: Tennis, Piano, Languages, Midnight runs, Travel, Writing Poetry & Film, Sauna Society, Beekeeping, Bread