

PETER A. SAYEGH

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EDUCATION

Columbia University

New York, NY

MS in Electrical Engineering (EE) – Nikola Tesla EE Scholarship

Expected Dec 2026

Coursework: Digital Signal Processing, Analog Electronic Circuits, Power Electronics, MOS Transistors

Activities: Department Representative for EE within the Engineering Student Graduate Council (EGSC)

Ecole Polytechnique

Palaiseau, FR

BS in Mathematics and Physics, GPA: 3.75/4.0

Jun 2025

Coursework: Convex Optimization, Stochastic Processes, Electrodynamics, Advanced Quantum Physics, Thermodynamics, Statistical Physics, Condensed Matter, Algorithms, Numerical Analysis, Web Programming, Object-Oriented Programming, Machine Learning

Activities: President of the Mental Health Awareness Committee

RESEARCH EXPERIENCE

Ecole Polytechnique - Center for Theoretical Physics

Palaiseau, FR

Undergraduate Research Team Project - Magnetic Levitation Systems

Feb 2024 - Jul 2025

- Designed and constructed a scaled Maglev train prototype using magnetic field analysis, achieving 96% theoretical validation
- Extrapolated experimental results to a real Electromagnetic Suspension (EMS) engine scale, predicting capacity within 2% of Shanghai Maglev

Ecole Polytechnique - Hydrodynamics Laboratory

Palaiseau, FR

Bachelor Thesis Research Intern

Jan 2025 - Mar 2025

- Devised a neural network framework leveraging JAX to model Rogue Waves, with less than 0.5% error
- Enhanced model performance via causal training algorithms, reducing convergence time by 60%
- Applied numerical wave analysis methods, attaining a 2% average L2 error against analytical solutions

Ecole Polytechnique - Irradiated Solids Laboratory

Palaiseau, FR

Undergraduate Research Assistant

Jan 2024 - Jun 2024

- Developed MATLAB algorithms for high-frequency (1 THz) wave simulation in nanoscale materials
- Characterized acoustic signal attenuation and reflection in the range of 10-100nm thickness across multiple interfaces

PROFESSIONAL EXPERIENCE

TriSpan LLP

New York, NY

Private Equity Intern

Jul 2024 - Aug 2024

- Streamlined Profit & Loss (P&L) reporting across 10 portfolio companies using Excel
- Conducted Leveraged Buyout (LBO) modeling using Excel and Bloomberg terminals
- Identified investment opportunities across five industry sectors
- Drafted valuation reports using Discounted Cash Flow (DCF) analysis for portfolio companies worth \$200M+ in assets

Self-employed

Paris, FR

Academic Tutor

Oct 2021 - Jun 2024

- Tutored 15+ students over three years in advanced mathematics and physics, strengthening conceptual understanding
- Developed customized lesson plans and strategies, achieving 42% average grade improvement

TECHNICAL SKILLS

Programming Languages: Python, C++, Arduino, R, MATLAB, HTML, CSS, JavaScript, QML

Data Science and Machine Learning: TensorFlow, Keras, JAX/Optax, scikit-learn, NumPy, SciPy, pandas, statsmodels

AI Frameworks: DSPy, Agno, Geka

Scientific Computing: QuTiP, Scikit-HEP, PySpice

Hardware and Circuit Design: Cadence Spectre, PLECS, LTSpice

Tools and platforms: LaTeX, Git, Jupyter

Languages: French (Native), Arabic (Native), German (Advanced), Spanish (Intermediate)