Shannon Dooley

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EDUCATION

University of Pennsylvania, School of Engineering and Applied Science   **Philadelphia, PA | May 2027**
Candidate for <u>BSE</u> and <u>MSE</u> in *Systems Science and Engineering*
Minors*: Engineering Entrepreneurship, Mathematics*

PROFESSIONAL EXPERIENCE

Barclays Investment Bank   **New York, NY | June – August 2025**
Cyber and Technology Internal Audit Intern
- Engineered a predictive model to assess control ratings, using EDA and feature engineering to filter noise from default-driven signals, improving model precision with a 20% F1 score gain.
- Executed DEA and OET testing on endpoint controls, applying structured analytics to identify coverage gaps and assess resilience under varying conditions.
- Presented model performance and endpoint audit findings to stakeholders, translating outputs into actionable risk insights

DARPA Triage Challenge   **Philadelphia, PA | February – December 2024**
AI Research Intern
- Collected and analyzed high-frequency sensor data from UAVs and robotics platforms, adhering to DARPA protocols and human-subject guidelines.
- Designed and refined machine learning models to classify physiological signals in real time, improving accuracy of triage effectiveness under uncertainty.
- Partnered with healthcare professionals to integrate clinical insights, enhancing model robustness and applicability in high-stress, real-world environments.

RELEVANT COURSEWORK

Finance & Venture:
Engineering Entrepreneurship (EAS 5450), Engineering Economic (ESE 4000), Scaling Operations in Tech Ventures (OIDD 2360)
Quantitative Methods:
Probability (STAT 4300), Stochastic Systems (ESE 3030), Convex Optimization (ESE 6050), Qubit Lab (ESE 3200)

LEADERSHIP & EXTRACURRICULARS

Class Board
Engineering Chair for Class of 2027   *September 2023 – Present*
- Elected as Engineering Chair, representing 400 peers; led operational strategy and budget forecasting with $50k in managed funds.
- Negotiated sponsorships and partnerships, securing complimentary services and driving highest profitability of all class boards.

Teaching Assistant
ESE 2030 (Linear Algebra with Applications in Engineering and AI)   *January 2025 – Present*
- Led problem-solving sessions and 1:1 instruction on linear algebra, eigenvalues, and matrix applications in AI and systems modeling.
- Supported professors in grading and designing quantitative assignments, ensuring technical rigor and clarity.

Penn Wharton Venture Labs
Founder of Startup (AeroZone)   *September 2025 – Present*
- Conducted market sizing, competitive analysis, and scenario testing to evaluate startup risk/return trade-offs.
- Collaborated with interdisciplinary teams to validate MVP results, refining models and presenting findings to professors.

SKILLS & INTERESTS

Technical: Python, SQL, Java
Quantitative Skills: Stochastic Modeling, Control Theory, Optimization, Numerical Simulation, Financial Models
Languages: Chinese (intermediate)
Interests: Venture Capital, Investment Strategy, Quantitative Trading, FinTech, Emerging Tech