

Mark (Raiden) Egbert

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EDUCATION

The University of Chicago

Chicago, IL

Master of Science in Financial Mathematics

Expected December 2025

- Courses: Python, Probability, Stochastic Calculus, Portfolio Theory & Risk Management, Machine Learning

University of Washington

Seattle, WA

Bachelor of Science in Applied and Computational Mathematical Sciences (GPA: 3.99/4.0)

August 2024

Bachelor of Science in Aeronautical and Astronautical Engineering (GPA: 3.99/4.0)

August 2024

- Courses: Probability & Statistics, Partial & Ordinary Differential Equations, Advanced Linear Algebra Applications, Java, MATLAB, Multivariable Calculus, Discrete & Continuous Modeling, Stability & Chaos Theory
- Awards: Summa Cum Laude (Top 0.5% Honors); William E. Boeing Dept. Graduation Speaker; Dean's List

SKILLS

Computing: Python, Java, R, MATLAB, Excel

Knowledge: Mathematical Modelling, Linear Algebra, Data Analysis and Processing, Probability and Statistics

EXPERIENCE

UW Raas Packing Project

Seattle, WA

Modeling and Software Engineer Lead

March 2024 - June 2024

- Developed linear optimization model in Python to find optimal design blueprint for UW Raas Dance Team's stage set and props in order to minimize packed volume for minimal cost of travel
- Decreased travel expenses for UW Raas Dance Team by 50% for each competition

NASA SCALOS Senior Capstone

Seattle, WA

Structures and Fuel Integration Lead

January 2024 - June 2024

- Designed and implemented full wing structure, landing gear, and fuel tank system in Solidworks for modern high-efficiency supersonic airliner concept
- Validated key performance metrics and requirements such as minimum fuel capacity, runway clearance, and center of gravity and moment of inertia controls requirements
- Manufactured and extensively tested 1:22 scale wind tunnel model in commercial wind tunnel, involving computationally intensive data correction, smoothing, and analysis for key control authority considerations

Planet Fitness

Lake Forest Park, WA

Member Services Representative

July 2022 - September 2022

- Encouraged local participation in physical activity to promote healthy habits in the community
- Employee of the Month in August 2022

RESEARCH

Washington NASA Space Grant Consortium

Seattle, WA

Summer Undergraduate Researcher

June 2023 - August 2023

- Led investigation on backward moving shockwave phenomenon in starting stages of ram accelerator
- Conducted over 40 experiments involving advanced instrumentation and data collection systems
- Presented results and findings at research conference, setting groundwork for future research on the accelerator

University of Washington

Seattle, WA

RAM Accelerator Research and Development

September 2022 - October 2023

- Measured performance of hypersonic launch system to quantitatively define operational conditions and performance
- Processed and analyzed data from numerous experiments using MATLAB and Excel

EXTRACURRICULAR

University of Washington

Seattle, WA

Mathematics and Physics Tutor

September 2020 - August 2024

- Volunteer tutor for 7 individuals in courses such as differential equations, linear algebra, and kinematics and dynamics

ADDITIONAL INFORMATION

Interests: Fitness, sports, card games, computers and video games, chess, cello, cooking and baking, billiards, photography