Paul Lea

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EXPERIENCE

QUANTUM COMPUTING RESEARCH | Researcher
June 2024 – Current | RPI, Troy NY
- Researched novel approaches to increase relaxation times of IBM Eagle R3 Quantum Processing Units
- Learned Qiskit Pulse control language for QPUs and used a containerized python kernel to execute experiments.

RESEARCH PAPER TRANSLATION | Translator
June 2024 - September 2024|
- Used AI tools to translate research papers from Chinese to English
- Leveraged a combination of physics knowledge, computer literacy and AI tools to efficently translate research papers.

HIGH PERFORMANCE COMPUTING PHYSICS BOOTCAMP | Attendee
Summer 2023 | Remote
- Utilized remote computing resources at the Pittsburgh Supercomputing Center to computationally solve statistical physics problems.
- Became familiar with Git, Python and Fortran.
- Learned from a variety of field experts on current cutting-edge research in computational physics and statistical mechanics.

TREASURER CHI PHI, RSEI | Treasurer
November 2023 – December 2024 | RPI, Troy NY
- Managed over $ 400,000 yearly over 2 organizations.
- Negotiated supply contracts with local and regional vendors to decrease operational expenditures.
- Worked with over 20 different officers to develop efficient and effective budgets.
- Automated cataloging of transactions and collection of receipts.

PROJECTS

PHYSICS NOTES | Accessible Online Physics Learning Resource
Fall 2023 - Current | Troy, NY, London, UK
- Currently working to publish a repository of physics resources and notes online, closely mirroring the RPI Physics/Applied Physics curriculum.
- Developed with Quartz, Github Pages and Obsidian

RENSSELEAR MOTORSPORTS | High-Performance Composite Surfaces
Fall 2022 – Spring 2023| RPI, Troy NY
- Researched and worked with members of Rensselaer Motorsports FSAE team to develop advanced composite materials for use on aerodynamic surfaces of the 2023-2024 season racecar.
- Collaborated with the MANE (Mechanical, Aerospace, Nuclear and Electrical) engineering department to utilize high-speed wind tunnels to validate composite and aerodynamic properties predicted in research.

EDUCATION

RENSSELEAR POLYTECHNIC INSTITUTE
Bachelors of Science in Applied Physics and Economics
Expected May 2025 | Troy, NY
Dean's List Spring 2024, Summer 2024, Fall 2024
Cumulative GPA: 3.59 / 4.0

SKILLS

PROGRAMMING
2 years:
Python • HTML • Bash
1 year:
Fortran • Matlab • Mathematica • Qiskit Pulse

TECHNOLOGY
Linux • Windows • Docker
Nextcloud • Github/Git • Quicken

MATHEMATICS AND PHYSICS
Computational Physics, Physics Education, Group Theory, Latex

COURSEWORK

UNDERGRADUATE
Group Theory for Physicists
Statistical Mechanics
Quantum Physics
Electromagnetic Theory
Econometrics
Introductory Modern Physics
(Mentor)

SOCIETIES

Rensselear Society of Engineering Innovation (RSEi)
Chi Phi Fraternity
Diversity Equity and Inclusion Physics Taskforce

LINKS

Website://**paulsphysicsnotes.org**
Instagram://**paulrleaa04**
GitHub://**paulrlea**