Phong Pham

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EDUCATION

Gettysburg College — Gettysburg, PA
BS in Computer Science (GPA: 3.7/4.0), minor in Data Science. — Jan 2022 – Dec 2025
- *Honors*: Dean's Honor List, Presidential Scholarship.
- *Coursework*: Data Structure & Algorithms, Object-Oriented Programming, Database Systems, Operating Systems, Artificial Intelligence, Data Science Programming, Individualized Study-Research.

University of Wollongong — Wollongong, Australia
Study Abroad semester — July 2024 – Nov 2024
- *Coursework*: Ethical Hacking, Interactive Computer Graphics.

RESEARCH EXPERIENCE:

Undergraduate Researcher — **GETTYSBURG COLLEGE**
Part-time — Aug 2025 – Present
- Conducted large-scale analysis of 63M+ of optimal mancala game with a different null capture rule states to study free-move patterns, capture-move optimality, and branching-factor reductions.
- Engineered features capturing pit structure, capture potential, score-path dynamics, and termination behavior to characterize optimal decisions.
- Developed machine-learning models to generalize optimal-play insights into 10M+ non-fair states, identifying which features most strongly influence optimality.
- Co-authoring a manuscript presenting fairness criteria, large-scale state-space characterization, and predictive modeling of optimal moves.

Computer Science & Math Teaching Assistant — **GETTYSBURG COLLEGE**
Part-time — Sep 2022 – Present
- Assist professors in different courses: intro computer science course, OOP and Calculus I, II, III.
- Hold office hours weekly with 10+ students attending on average.

Undergraduate Researcher — **Todd Neller lab**
Part-time — *Jun 2023 – Aug 2023*
- Researched optimal strategies for the dice game *Great Rolled One* using statistics and machine learning in Java.
- Developed a human-playable strategy within 2.0% of the optimal policy.
- Co-authored a [paper](#) accepted to the ICGA conference (International Computer Games Association).
- Presentation: [YouTube Link](#).

X-SIG Summer Researcher — **Sunghee Kim lab - GETTYSBURG COLLEGE**
Full-time — *May 2023 – July 2023*
- Experimented different machine learning and artificial intelligence techniques: regression, classification, neural network.
- Replicated a neural network to classify Vietnamese sentences as positive, neutral, or negative using LSTM-CNN model.
- Poster link: http://www.cs.gettysburg.edu/~phamph01/xsig/

Software Engineer Intern — *DIGINET CORPORATION, Ho Chi Minh City, Vietnam*
Full-time — May 2022 – Jul 2022
- Improved an existing [library](#) that converts data from MSSQL to MySQL using JavaScript.
- Independently developed new features to handle more cases when converting data.

TECHNICAL SKILLS

Programming: Python | Java | MATLAB | JavaScript | HTML | SQL | Dart | PHP | C++ | RESTful API

LEADERSHIP EXPERIENECE

President of Vietnamese Student Association (VSA) - [Instagram](#) — **Gettysburg College**

- Lead a 60+ member Vietnamese cultural organization as President, directing a 6-person executive team.
- Secured over $10,000 in funding to organize large-scale events celebrating Vietnamese traditions and heritage.
- Major events planned and executed such as Mid-Autumn Festival, Tet, and BurgBurst, attracting 200+ attendees.
- Managed budgets, delegated tasks, and provided strategic direction to promote Vietnamese culture on campus.