Peilun (Tommy) Li

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Education

Vanderbilt University **Aug 2021 – May 2025**

B.S.(Hons) in Computer Science, B.A.(Hons) in Mathematics ***GPA:*** 3.924/4.00

Advanced Coursework

- Advanced ML
- ML for Dyn. Syst.
- Measure Theory
- Numerical Analysis
- Statistics and Probability
- Mathematical Modeling
- Algorithms
- Software Design

Work Experiences

Vanderbilt University Department of Computer Science **Aug 2022 – Present**

Undergraduate Teaching Assistant of CS{1100, 3251} *Nashville, TN*

- Held 15 office hours weekly to help class size of 150+ students understand data structures, C++, and design patterns.

Data Science Institute **Jan 2023 – May 2023**

Data Engineer *Nashville, TN*

- Developed dialogic questioning AI products using GPT models through prompt engineering and fine-tuning.

Vanderbilt University Medical Center **Aug 2022 – Feb 2023**

Research Assistant *Nashville, TN*

- Designed, developed, and improved machine learning model that identifies shape-influencing protein sub-chains.

Publications

1. K.Tan, **P.Li**, and T.Beckers. "Physics-Constrained Learning for PDE Systems with Uncertainty Quantified Port-Hamiltonian Models". In: Proceedings of the 5th Conference on Learning for Dynamics and Control. 2024. (accepted)

2. **P.Li**, K.Tan, and T.Beckers. "PyGpPHs: A Python Package for Bayesian Modeling of Port-Hamiltonian Systems". In: Proceedings of the 8th IFAC Workshop on Lagrangian and Hamiltonian Methods for Nonlinear Control. 2024. (accepted)

Conferences and Presentations

16th World Congress on Computational Mechanics **Jul 2024**

Oral Presententation *Vancouver, British Columbia, Canada*

- Presented my paper on PyGpPHs toolbox for Bayesian Modeling of Port-Hamiltonian Systems

ISIS 25th Anniversary Celebration **Aug 2023**

Poster Presenter *Nashville, TN*

- Presented our recent work on "Bayesian Physical-Informed Models for Soft Robotics."

Shanks Workshop on Advances in Theoretical Biology and Mathematical Biology **Mar 2023**

Poster Presenter *Nashville, TN*

- Presented my paper on Age-Structured Systems of Ordinary Differential Equation Modeling on COVID-19.

Awards and Honors

School of Engineering Award Undergraduate **May 2023**

Vanderbilt University

- Scholarship award to 40 excelling undergraduate students in School of Engineering.

Dean's List **Aug 2021 – Present**

Vanderbilt University

American Mathematics Competition **Feb 2021**

AMC10, AMC12

- Achieved top 5% score in the AMC 12 competition and AMC 12 Honor Roll, qualified for AIME.

Technical Skills

Computational Programming: Ordinary, Partial Differential Equations, Numerical Methods, Probability, Linear Algebra
Technologies/Frameworks:Python{Numpy, SciPy, Pandas, CVXOPT, Scikit-Learn, Ctype, Matplotlib, Seaborn, Pytorch} C++{algorithms, Eigen}
Languages: Python, C/C++, R, MatLab, Mathematica, Java, LaTex