Chawit "Poom" Kritpracha

poom@rice.edu — https://poom77.github.io.

Education

Rice University, Houston, TX **Aug 2019 - May 2023 (expected)**

Bachelor of Arts,	Computational and Applied Mathematics	Major GPA: 3.818
(GPA: 3.78)	Mathematics	Major GPA: 3.818

Research Experience

Undergraduate Researcher **May 2022 - Present**
Rice University

- Working on modelling a closed-loop compartmental model for solute transport in the human circulatory system with applications to Exercise and the Fontan circulations.
- Results presented at the Gulf Coast Undergraduate Research Symposium (awarded Outstanding Session Presentation) and Purdue Engineering Virtual Graduate Showcase.
- Supervised by Dr. Beatrice Riviere and Dr. Charles Puelz.

Undergraduate Research Assistant **Jan 2022 - May 2022**
Rice University

- Implemented dynamically indicating algorithms for a partial differential equation solver that determines between the usage of a finite volume method and discontinuous-Galerkin method in MATLAB.
- Supervised by Dr. Boqian Shen and Dr. Beatrice Riviere.

Cofounder – Team member **Sep 2019 - Sep 2020**
International Physicists' Tournament

- Cofounded the Rice University team with support from the Physics and Astronomy department.
- Placed third in internationals hosted by University of Warsaw.
- Placed first in nationals hosted by University of California, Berkeley.

Senior Design Project **Aug 2022 - Present**
Rice University – Worley

- Working on adopting algorithms to identify complex objects from a point cloud data set via machine learning.
- Working as part of senior design project and in collaboration with Worley Ltd.

Teaching & Mentoring Experience

Rice Learning Assistant **Aug 2021 - May 2022**
Rice University

- Introduction to Engineering Computation (CAAM 210) with Dr. Anastasiya Protasov.
- Hosted weekly lectures going over the week's material, and devised hands-on coding examples to prepare students for the week's assignment.

Teaching Assistant **Aug 2020 - Dec 2020**
Rice University

- Single Variable Calculus I (MATH 101) with Dr. Jacob Russell-Madonia.
- Facilitated and moderated in-class group discussions in a flipped classroom environment.

New Student & Orientation Week Advisor **Aug 2020 - May 2021**
Rice University

- Advised a cohort of incoming students during the university's orientation week and the following school year.

Team Mentor & Juror **Jul 2020**
Institute for the Promotion of Teaching Science and Technology Bangkok, Thailand

- Mentored Thailand's national team in their preparation for the 2020 International Young Physicists' Tournament (online).
- Nominated and served as one of the jurors for the competition.

Awards & Honors

Michael Ross Franco Award **12/07/2022**

Award given to Rice undergraduates who are exemplary computational and applied math students.

Work Experience

Grader

- Introduction to Engineering Computation (CAAM 210) **Aug 2021 - May 2022**
- Single Variable Calculus I (MATH 101) **Aug 2020 - Dec 2020**

Technology Assistant **Aug 2020 - May 2021**
Rice University

- Aided instructors in setting up and facilitating a hybrid or fully-online classroom.

Housing and Dining Student Worker **Jan 2020 - April 2020**
Rice University

- Operated cashier deck and did maintenance at one of the university's dining hall.

Presentations

Gulf Coast Undergraduate Research Symposium **10/08/2022**

A Zero-Dimensional model for Solute Transport in the Human Circulatory System,
Hosted by Rice University. Awarded Outstanding Session Presentation.

Purdue Engineering Virtual Graduate Showcase **09/26/2022**

A Zero-Dimensional model for Solute Transport in the Human Circulatory System,
Hosted by Purdue University.

CMOR Graduate Seminar **01/18/2023**

Modeling Exercise and Exercise Capacity in Fontan Patients,
Hosted by Rice University.

Languages

Programming MATLAB (proficient), Python (intermediate)

Markup LaTeX (proficient), HTML (novice)

Spoken English (proficient), Thai (proficient)

Relevant Coursework

CAAM 551	Numerical Linear Algebra	Grade: A+
CAAM 508	Nonlinear Systems: Analysis and Control	Grade: A
CAAM 436	Modelling Mathematical Physics	Grade: A+
CAAM 452	Numerical Methods for Partial Differential Equation	Grade: A+
CAAM 453	Numerical Analysis I	Grade: A
CAAM 454	Iterative Methods for Systems of Equations	Grade: A+
MATH 321	Introduction to Real Analysis I	Grade: A-
MATH 354	Honors Linear Algebra	Grade: B
MATH 304	Elements of Knot Theory	Grade: A
MATH 368	Topics in Combinatorics	Grade: A
CAAM 336	Differential Equations in Science and Engineering	Grade: A
CAAM 378	Introduction to Operations Research and Optimization	Grade: A-
MATH 220	Honors Ordinary Differential Equations	Grade: A