

CHAYANON (NAMO) WICHITRNITHED

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github.com/namo626

EDUCATION

The University of Texas at Austin - Oden Institute for Computational Engineering and Sciences 2020 - Present
Ph.D. Computational Science, Engineering, and Mathematics

GPA: 3.9/4.0

- Research areas: Simulation of coastal flooding from hurricane storm surge, numerical methods for fluids
- Relevant coursework: High-Performance Computing, Stabilized Methods for CFD, Numerical Analysis, Fluid Dynamics, Conservation Laws, Applied Analysis

Georgia Institute of Technology

August 2016 - May 2020

B.S. Physics with Highest Honors, with minor in Scientific & Engineering Computing

GPA: 3.94/4.00

- Relevant coursework: Classical & Quantum Mechanics, Scientific Programming, Discrete Algorithms, Object-Oriented Programming, Electromagnetism

EXPERIENCE

Graduate Research Assistant — Austin, TX

May 2021 - Present

Computational Hydraulics Group, Oden Institute

- Implement and test parametric rainfall models on a discontinuous Galerkin variant of the ADvanced CIRCulation (ADCIRC) 2D finite element model to better capture the interaction of various flooding sources in compound floods
- Developing a coupled continuous/discontinuous Galerkin finite element method based on ADCIRC to improve simulation of advection-dominated flows while maintaining efficiency
- Partner with the Texas Water Development Board to determine worst-case scenario flood levels by running large-scale ADCIRC simulations for historical storms with extreme levels of surge or river discharge
- Prepared and validated compact finite element meshes of the Gulf of Mexico using OceanMesh2D and QGIS for use in the projects above as well as the collaborative Multiphysics Simulations and Knowledge discovery through AI/ML (MuSiKAL) project

Undergraduate Research Assistant — Atlanta, GA

2017 - 2020

Pattern Formation and Control Laboratory, Georgia Tech

- Generated numerical simulations of quasi-2D turbulent flows and their visualizations in MATLAB
- Performed particle image velocimetry (PIV) to compare experimental data with simulation
- Optimized and tested regression techniques for estimating physical parameters of noisy quasi-2D flows
- Implemented and tuned recurrent neural networks (RNNs) to predict chaotic trajectories of dynamical systems

TECHNICAL SKILLS

- **Programming:** C, C++, Fortran (with MPI, OpenMP, PETSc), Python, MATLAB, Mathematica, Bash, HTML
- **Tools:** GNU/Linux, Git, GNU Make, CMake, L^AT_EX, QGIS, Tracker
- **Research:** ADvanced CIRCulation model (ADCIRC), Figuregen, OceanMesh2D, FEniCS

CONFERENCE PRESENTATIONS

- *Developing a Compound Flood Model using the Discontinuous Galerkin Method.* Planet Texas 2050 Conference. The University of Texas at Austin, Austin, TX, April 2022.
- *The Impact of Boundary Conditions on Spectral Condensation of Turbulence: Numerics and Experiment.* 71st Annual Meeting of the APS Division of Fluid Dynamics. Georgia World Congress Center, Atlanta, GA, November 2018.

HONORS & AWARDS

- National Initiative for Modeling and Simulation (NIMS) Graduate Fellowship, 2020 - Present
- Runners Up - Planet Texas 2050 Symposium Student Poster Competition, April 2022
- Faculty Honors, Fall 2016 - Spring 2018

ADDITIONAL INFORMATION

- **Languages:** Native proficiency in Thai
- **Work Eligibility:** Extended eligibility to work in the U.S.