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Education

University of Washington

September 2022 – March 2024 (Expected)

Master of Science in Mechanical Engineering (Data Science)

Seattle, Washington, United States

GPAX = 3.86, Awarded a scholarship from the Royal Thai Government for full tuition

Relevant Coursework

- Fluid Turbulence
- Data-driven modeling & control
- Parallel Computing
- Computational techniques
- Continuum Mechanics
- Database System

Chulalongkorn University

August 2017 – May 2021

Bachelor of Engineering in Mechanical Engineering

Bangkok, Thailand

GPAX = 3.77 (1st class honors), Rank 5th in the department, Awarded a scholarship from Bank of Thailand

Relevant Coursework

- Finite Element Method
- Compressible Fluid Dynamics
- Turbulent Shear Flows
- Intelligent System
- Power Plant Engineering
- Internet of Things

Technical Skills

Programming Language

- Python
- MATLAB
- Simulink
- SQL
- L^AT_EX

Engineering Simulation Software

- ANSYS
- COMSOL Multiphysics[®]

CAD

- AutoDesk: Fusion 360
- SolidWorks
- CATIA
- AutoDesk: AutoCAD

Microcontroller

- Arduino
- STM32
- Raspberry Pi

Manufacturing

- 3D printing
- Laser cutter
- Mazak CNC
- Water jet cutter
- Okuma CNC

Certification • American Academy of Underwater Sciences (AAUS) scientific diver

Experience

University of Washington

March 2023 – June 2023

Grader, ME426 Renewable Energy II

Seattle, Washington

- Graded students' submission according to the given solution using Gradescope
- Provided summary and feedback to students upon completion of their work

University of Washington

January 2023 – March 2023

Grader, ME525 Applied Acoustics I

Seattle, Washington

- Graded students' homework according to the given rubric and brief
- Reported overall performance of student and common mistake in homework

National Metal and Material Technology center

May 2020 – July 2020

Intern

Pathum Thani, Thailand

- Conducted research project focused on laser welding simulation using COMSOL Multiphysics[®]
- Assisted with experiments conducted by the advanced engineering systems research team

Chulalongkorn University

October 2019 – December 2021

Laser cut specialist, MI Workspace

Bangkok, Thailand

- Supervised usage of laser cutter and provided laser cutting service
- Managed borrowing and returning of basic mechanic equipment in the workshop
- Provided in-depth training and guidance on laser cutter to new users

Projects

Reynolds stress discrepancy prediction using physics-informed machine learning | *Python, COMSOL* June 2023

- Simulated channel flows in RANS simulation with COMSOL Multiphysics® using the v2-f turbulence model
- Developed Python code to download Direct Numerical Simulation (DNS) result from Johns Hopkins Turbulence database and used both results as inputs for machine learning model
- Differentiate Reynolds stress between RANS simulation and DNS simulation and used it as output parameter for models
- Split, trained, and evaluated performance of the model with random forest regression and compared with the same process using multi-layer perceptron regression

Numerical simulation of melt pool shape in laser welding | *COMSOL Multiphysics®* May 2021

- Explored the possibility of multiphase simulation in laser welding process
- Compared the simulation result with relevant laser welding research result
- Simulated the flow in the melt pool using 2D multiphase simulation in COMSOL Multiphysics®

Face tracking & recognition robot | *Python* December 2020

- Developed Python code for Raspberry Pi to detect human face
- Controlled robot using STM32 to keep the face in the middle of the camera
- Trained machine learning model to recognize owner's face and accelerated machine learning inference speed with Google Edge TPU coprocessor.
- Sent notification to owner's phones when a stranger's face was detected

Chula Prana Emergency Ventilator | *AutoDesk: Fusion360, Laser Cutter* May 2020

- Developed device that attached and automatically squeezed the bag valve mask
- Designed the contact surface between the device and the bag valve mask
- Tested and improved the reliability of the emergency ventilator

Extracurricular

UW Human Powered Submarine Autumn 2022 – Present

Dive Team

University of Washington

- Awarded 2nd place for overall performance in 17th International Submarine Races at Carderock, Maryland (June 2023)
- Achieved 2nd place for speed in the college division in 17th International Submarine Races
- Provided support for the pilot and technical teams during underwater tests and at the competition

CU-RoboCovid Development Team March 2020 – May 2020

Prana Emergency Ventilator team

Chulalongkorn University

- Designed and developed emergency ventilator for mass production via laser cutter in case of ventilator shortage due to COVID-19 outbreak
- Helped manufacturing 'Pinto' robot a delivery robot with Tele-presence system for inpatient with mild COVID-19

CU Mechanical Engineering student committee December 2018 – February 2020

Student Engagement team and Event organizer

Chulalongkorn University

- Feb 2020: Organizer (PR team) in 'ME night' 1st Homecoming for ME CU alumni
- Dec 2019: Chief Coordinator of Location and Logistic for 2nd Joint Voluntary Camp with Srisavarindhira Thai Red Cross Institute of Nursing
- Aug 2019: Organizer (Survey and planning team) in Industry site visit and orientation camp in Rayong, Thailand
- Aug 2019: Chief Organizer of mechanical engineering student orientation
- Dec 2018: Participant in 1st Joint Voluntary Camp with Srisavarindhira Thai Red Cross Institute of Nursing

Annual Voluntary Engineering Student Camp June 2018 – July 2020

Participant

Chulalongkorn University

- Constructing infrastructure in Thai rural area
- Jul 2020: Constructing a restroom for elementary school in Koh Mak, Thailand
- Jun 2019: Constructing a large plumbing system in Surin, Thailand
- Jun 2018: Constructing a large plumbing system in Prachuap Khiri Khan, Thailand