

Tund Theerawit

1501 Monroe St | Madison, WI, 53711 | Theerawit@wisc.edu | (773)580-1515 | www.linkedin.com/in/tund-theerawit | <https://github.com/TundTT>

EDUCATION

University of Wisconsin Madison
B.S. Mechanical Engineering

May 2027
GPA: 3.83 / 4.0

RELEVANT COURSEWORK

Data Science Programming I & II (Python) • Intro to Mechatronics • Dynamics • Design of Machine Elements • Mechanics of Materials (+ Lab) • Geometric Modeling • Statics • Data Science Modeling I • Multivariable Calculus

SKILLS & INTERESTS

Programming: Python, C++, PyTorch/JAX, Git, Linux/Bash

Machine Learning & Simulation: Reinforcement Learning (PPO), Policy Optimization, Custom Reward Design, Domain Randomization, MuJoCo (MJX), Sim-to-Real Transfer, Robot Kinematics & Dynamics

Robotics: ROS 2, OpenCV, Mechatronics Integration, PCB Soldering/Debugging

Tools: SolidWorks, Physics Engines

SUMMARY

Mechanical Engineering student at UW–Madison with hands-on experience building physics-accurate digital twins and training reinforcement learning policies for legged locomotion. Specialized in domain randomization, reward shaping, and Sim-to-Real transfer using MuJoCo (MJX/JAX) on the Pupper quadruped platform. Passionate about neural-based simulators and generative ML for high-DoF humanoid autonomy.

EXPERIENCES

LeggedAI Lab | Madison, Wisconsin, United States
Department of Mechanical Engineering, leggedai.com
Robotics Engineer Undergraduate Researcher

May 2025 – Present

- Developed high-fidelity MuJoCo (MJX/JAX) digital twin of Stanford Pupper quadruped, modeling dynamics, sensors, and actuators for reinforcement learning training environments
- Engineered Sim-to-Real pipeline with domain randomization and PPO policies. Overcame jerky inefficient motion by designing custom reward functions (velocity tracking, torque penalties, smoothness constraints) to achieve stable 0.75 m/s forward-velocity tracking with a 10% reduction in simulated energy consumption.
- Independently implemented Stanford Student Robotics (CS123) locomotion curriculum using personal Pupper hardware, advancing gait development and control strategies
- Adapted designs in SolidWorks for 3D-printable fabrication; assembled hardware, flashed boards, soldered/debugged PCBs, and collaborated to prototype shape-memory polymer shins for leg-to-wheel morphing

CATS Lab | Madison, Wisconsin, United States
Department of Civil & Environmental Engineering, Affiliate of Electrical & Computer Engineering
Summer Undergraduate Research

July 2024 – August 2024

- Developed autonomous navigation system for Ranger omnidirectional robot using OpenCV/Python vision pipelines; integrated ROS 2 nodes for real-time sensor-motor communication, control, and data processing across indoor/outdoor environments

AI Group internship | Bangkok, Thailand
Project Assistant

July 2023 – August 2023

- Implemented real-time C++ A* path planning and control algorithms for autonomous guided vehicles in industrial factory settings; integrated PLC/Ladder logic in cross-functional team