TEO YU JIE

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Work

Machine Learning and Mechanical Simulation Intern Jan 2023 - May 2023

Advanced Micro Devices ("AMD") *Singapore*

- Started as the first user of `PyANSYS` in entire company, resulting in new stochastic finite element analysis capabilities.
- Applied `PyANSYS` to feed Fusion Processors ('FP') bend test simulation data into generative adversarial network for hybridised machine learning.
- Created fast simulated visualisation of package failure that reduces computation time by 99.5% and saved 300+ hours.
- Developed best-known laboratory practice and software use for dynamic mechanical analysis and digital image correlation in Python, Golang, and SciLab.

Data Science Intern May 2021 - Aug 2021

KiteSense *Singapore*

- Led design for synthetic data curation to be fed into MongoDB (SQL) for data engineering pipeline resulting in a fast 2 month alpha-test.
- Managed first design for data visualisation and analytics as part of a (Tableau/Figma/Adobe CC) successful first launch.

Projects

Programming Projects Current

- Wrote a Gentoo distribution maintenance script that compiles packages and does a GLSA check in POSIX shell.
- Created a program that organises source code and performs a `git init` in Go, saving time in organizing large code-bases.
- Curated ideas in statistics (Kelly bets, mutual information, central limit theorem) and engineering (flight envelope, shaft design, Wagner aeroelastic flutter) using MATLAB and Python.

Ogden phenomenology of hydrogel fatigue Current

Nanyang Technological University *Singapore*

- Programmed a new first-iteration parametric fit using Ogden phenomenology in MATLAB.
- Simulated fracture of inhomogenous hydrogel using MATLAB-generated material input and meshing using ABAQUS and FORTRAN, being part of one of the first research groups to study simulated stochastic inhomogenous hydrogel crack morphology.

Skills

Programming: C, FORTRAN, Go, MATLAB, Python, Scilab, Shell
Engineering: ABAQUS, ANSYS (MAPDL), Solidworks, PyANSYS

Education

Nanyang Technological University Aug 2020 - Dec 2023

Aerospace Engineering (Specialisation in Mechanical Engineering) *Singapore*

- GPA: 4.65/5.00 (Honours, Highest Distinction)
- Courses: Aeroelasticity, Machine/Aircraft Design, Vibration, Power Electronics, Signal Processing, Control, Artificial Intelligence
- Peer Tutor for Data Science and AI Module to 210 peers (`numpy`, `pandas`)