

Brendan Sky Liang

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Objective

Junior seeking a challenging internship. Dedicated, high achieving engineering student with a passion for and excellent ability in mathematics and physics and their practical applications. In academics and projects, I'm a solution oriented problem solver who is driven by data and efficiency. As a student leader, I have strong planning skills, build teams with direct, candid communication, and am a flexible decision maker. I am keen to apply my existing engineering knowledge and capacity to learn quickly to an internship.

EXPERIENCE

Trainee/Summer Intern

Jun. 2021 - Aug. 2021

Gammon Construction | Hong Kong

Heavily involved in the AAHK Terminal 2 project where I am tasked with processing big data from SAP2000 analysis of the structure and temporary works for the roof construction by creating Excel Sheets and Python Scripts to extract and calculate key values such as Bolt Utilization Ratios, combined resultant forces on the Jacking Tower and Typhoon Bracing and min/max forces and moments on joints. Additionally, I have created parametric models for the Jacking Tower and Support Beam structures which were instrumental for the checking for clashing under the different configurations and loading cases as well as conducted FEA analysis to determine the expected shear forces on the columns.

Trainee/Summer Intern

Jul. 2020 - Sept. 2020

Gammon Construction | Hong Kong

Part of the design team at Lambeth Associates within Gammon Construction. Working onsite at both the Lyric Theater project and the AAHK Terminal 2 project. At Lyric Theater, I primarily focused on computational fluid dynamics analysis using OpenFoam and ParaView, I also developed workflows and wrote and ran training sessions for the team. I was involved in engineering management related tasks at AAHK Terminal 2 project launch, working on Gantt charts, BIM Tenders and temporary works steel pricing calculations.

Key Accomplishments:

- Developed workflows for inhouse Computational Fluid Dynamics capabilities and led training sessions for the team
- Developed workflows for the converting between Rhino 6, Grasshopper and MS Excel through MongoDB and the Building and Habitats Object Model
- Steel mass and pricing calculations for AAHK Terminal 2 Roof Temporary Works steel order
- Assisted with the launch of AAHK Terminal 2 Project

Human Powered Submarine

Nov. 2019 - Jun. 2020

Club | UCSD

Part of a 30-person student team that designs and builds submarines piloted and powered by a student. Part of the drivetrain team. Design, machine and build of the propulsion, pedal system and steering system. Ending the school year by sand casting propeller blades in aluminum as well as conducting pool tests.

EDUCATION

University of California, San Diego | B.S. in Aerospace Engineering with a Minor in Mathematics

Expected Jun. 2023

- Major GPA: 3.80/4.00, Overall GPA: 3.78/4.00
- Completed all lower division Aerospace Engineering and Math Minor Courses

ESF West Island School | International Baccalaureate

Aug. 2013 - Jun. 2019

- Achieved 40/45 while taking four higher level courses rather than the standard three, including Higher Level Mathematics, Chemistry and Physics

SKILLS

MATLAB | Microsoft Suite | OpenFOAM | Python | Linux | Rhino 6 | Grasshopper | ParaView | GSA Oasis | MongoDB | PLAXIS 2D | Dynamo | Building and Habitats Object Model | Solidworks

Activities

Mathematics Development Club Co-Founder and Co-Leader

Sep. 2017 - Apr. 2019

ESF West Island School | Hong Kong

- Trained and led a group of students to prepare for the North East Asian Math Competition held in Beijing. Developing and demonstrating leadership, planning, teamwork, communication and managerial skills while solving math problems.

Hong Kong International Aviation Academy Aircraft Engineering Camp

Summer 2018

AAHK | Hong Kong

- Course sponsored by ICAO about daily operations at Hong Kong International Airport, HAECO maintenance hangars and the fundamentals of aircraft maintenance and operation.

Harvard University - Pre-College Program

Summer 2017

Harvard University | Boston

- A two-week course about studying Comparative Biomechanics and Physiology.

Hong Kong Award for Young People - Silver | The Duke of Edinburgh's Award

Sep 2015-Apr 2017

ESF West Island School | Hong Kong

- A course encompassing service, skills, expeditions and physical recreation. Practiced teamwork, navigation, planning and survival skills.