Aron Saengchan

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Summary

Software engineering graduate student seeking a transition towards a career in software development. Previous engineering experience includes over 2.5 years from working on large infrastructure projects for the engineering consulting industry and in academia studying the properties of composite materials.

Technical Skills

Backend: Java, Python, C, C++
Frontend: HTML, CSS, JavaScript
Tools: Git, MATLAB, Arduino

Experience

Laboratory of Engineering Materials – University of Calgary   *May 2019 – February 2021*
NSERC RESEARCH ASSISTANT   *Calgary, AB*

- Led two projects that involved evaluating the mechanical properties of 3D printed carbon fibre composite materials and investigating initial pathways to manufacture carbon fibre from bitumen-derived asphaltenes
- Developed g-code algorithms using MATLAB scripts to fabricate 3D printed specimens for mechanical testing and analyzed data to find trends that characterized the strength of the material
- Designed and constructed a melt spinning device on Solidworks that successfully aided in the process of converting the oil sands asphaltenes into carbon fibre
- Characterized numerous properties of unknown materials by performing various thermal, rheological, molecular weight distribution, and microscopy analyses
- Prepared and drafted detailed reports for publication on the findings examined in the studies

Jacobs Engineering   *May 2017 – May 2018*
ENGINEERING INTERN   *Toronto, ON*

- Assisted project management in submitting change orders requests, organizing budgets, and documenting scheduling tasks towards the design of two wastewater treatment plants
- Facilitated QA/QC procedures by addressing and resolving design concerns identified by clients
- Proposed HVAC design solutions through running building energy simulations on Hourly Analysis Program (HAP) software for a pumping station facility
- Drafted and revised multi-component process flow diagrams on Bentley MicroStation for the design of a fluidized bed incinerator
- Analyzed and documented significant LRT transit features in preliminary drawings to assist with a bid for the Calgary Green Line

Global Brigades   *April 2016 – May 2016*
ENGINEERING VOLUNTEER   *El Paraíso, Honduras*

- Designed a sustainable water system for a community of 226 residents without a sufficient water supply
- Utilized GPS data and surveying techniques to map out the path of the water system network
- Performed process simulations to optimize the flow rate of outlet locations using an iterative approach
- Proposed an efficient well and pump system to the community, which was constructed in July 2016

Projects_____

Ontario Public Library System Portal 🔗
- A terminal-based application developed on Python that simulates an interactive interface for the Ontario Public Library System
- Utilizes NumPy, pandas, and Matplotlib libraries to organize yearly data and present it in meaningful ways

Filament Pultruder GUI 🔗
- A graphical user interfaced developed on Python using the tkinter library for a filament pultruder device
- Includes frames for the user to view the status of the system, as well as the speed and force plots in real time
- Incorporates fail-safes and warnings to prevent users from operating the device at invalid input values

Cryptocurrency Mining App – Hack Your Learning Hackathon 🔗
- A terminal-based application developed on Java using object-oriented programming principles
- Captures the price of Bitcoin from the CoinDesk API to forecast returns
- Utilizes the Gson library to convert incoming JSON data from the API into Java objects

Education _____

University of Calgary, Schulich School of Engineering   *May 2021 – present*
M. ENG. IN SOFTWARE ENGINEERING   *Calgary, AB*
- Cumulative GPA: 4.00/4.00
- Expected graduation in April 2022

University of Calgary, Schulich School of Engineering   *September 2014 – December 2019*
B.SC. IN MECHANICAL ENGINEERING WITH DISTINCTION   *Calgary, AB*
- Minor in Mechatronics Engineering
- Completion of the Internship Program
- GPA: Cumulative – 3.56/4.00; Final year – 4.00/4.00

Volunteering _____

The Mustard Seed: University of Calgary Chapter   *September 2018 – April 2020*
VOLUNTEER DIRECTOR   *Calgary, AB*
- Led volunteer groups in meal preparation and donation sorting events at The Mustard Seed shelters
- Organized and coordinated on-campus events to increase awareness of homelessness and poverty in Calgary
- Contributed towards an executive team that successfully fundraised over $8,000 in two years

Awards _____

NSERC Undergraduate Student Research Award   2020
Gienow Engineering Undergraduate Scholarship   2019
Jason Lang Scholarship (3)   2015, 2016, 2017
Alexander Rutherford Scholarship   2014