LUCAS POON

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EDUCATION

University of Wisconsin-Madison September 2022 - Expected December 2024
Bachelor of Science in Computer Science with Honors, GPA: 3.895, Dean's List
Relevant Coursework: **Grad Level AI/ML (includes Deep Learning)**, Data Structures and Algorithms.

Stony Brook University August 2021 - May 2022
Bachelor of Science in Computer Science, Dean's List
Relevant Coursework: Discrete Mathematics, Data Structures, Graph Theory and Combinatorics.

TECHNICAL SKILLS

Languages	Proficient: Java, C#, MySQL, Javascript/Typescript, Python, HTML/CSS
Developer Tools	Proficient: Bash, Git, Vim, VSCode, IntelliJ, PyCharm, Visual Studio
Libraries/Frameworks	Proficient: NumPy, SciPy, Matplotlib, PyTorch, React, .NET, Docker, Apache Storm, CI/CD

RESEARCH EXPERIENCE

Reinforcement Learning Seminar / Practicum Sept 2023 - Present
University of Wisconsin - Madison *Python*

- One of 5 selected undergraduate to participate in practicum with Professor Josiah Hanna.
- Experimenting with policies in reinforcement learning using Badger-RL lab's abstract robosoccer environment simulators.

WORK EXPERIENCE

Summer Internship (Data Acquisition) May 2023 - August 2023
Autotoll Limited, Hong Kong *C#, MySQL, Typescript*

- **Implemented** and **optimized** the use of daily historical data **(consisting of more than 750,000 raw data records)** to improve the precision of fuzzy logic in the spatial matching algorithm, increasing the overall accuracy **from 95% to over 98%**.
- Developed a program to analyze spatial matching algorithm accuracy and detailed statistics to spot areas of improvement for specific traffic patterns.
- Optimized performance and refined ETL by batching and implemented exactly-once semantic using Apache Storm Trident. Deployed Apache Storm cluster architecture to coordinate ETL task executions in worker topologies. Currently used in the Cross Harbour Tunnel, Western Harbour Crossing and Eastern Harbour Crossing processing **more than 500,000 transactions per day**. Also implemented CI/CD.
- Developed monitoring using react for spatial matching program and ETL program and catering for contraflow tunnel arrangements.

Internship Summer 2022
ZENS, Hong Kong

- Participated in the HKEx (The Stock Exchange of Hong Kong Limited) relocation project, including server mounting and dismounting, data degaussing, and preparing the degaussing report.
- Experienced large-scale data centers and servers and learned to perform degaussing on server hard drives.

Teaching Assistant Summer 2019, Summer 2021
Cobo Academy, Hong Kong

- Taught children coding through problem-based and project-based code in Tynker, Roblox Studio, Minecraft Education Edition, and Microbit.
- Learned to plan and lead projects of varying difficulties to accommodate students of all skill levels and create extensions to these projects to prompt further interest in programming.
- Learned to effectively communicate with teaching staff.

ACTIVITIES

ConUHacks VI January 2022

Participant, *Online Virtual* *HTML, CSS, Javascript*

- Tried to make a website that would show all the shopping orders for each person sorted using their email address. The data is taken from an online API and processed to display on the website.

KGV Coding Club August 2019 - February 2021

Co-Leader, *Hong Kong* *Python*

- Taught younger students Python from basics such as variables and arrays to more advanced for and while loops with conditionals as well as OOP.
- Helped to organize the ICE Challenge Competition team.

ESF Hackathon March 2019

Champion, *Hong Kong* *Python*

- Won the hackathon consisting of 20 programming questions, which included retrieving information from files, performing calculations, and problem-solving tasks.