Ken Etchells

Contact

Email:
etchellsken@gmail.com

Programming Languages

Strong Python
R
Java
JavaScript
TypeScript
HTML

Other Software

SQL
Git
JupyterLab
CMD
Bash
LaTeX
MS Office

Work Experience

2021 **Rotman Research Institute** Rotman Research Institute
Statistician/Analyst
April-August
- Performed statistical analyses in R on data sets relating to concussions
- Summarized findings and presented to researchers
- Assisted researchers in interpreting the data and writing up the findings of the study
- Ran several meetings during which results of the statistical analysis were presented
- Participated in weekly meetings during which progress updates were given

2018-2019 **UCC Summer Camps** UCC Camps
Coding Camp Counselor
July - August (4 months total)
- Ensured the health and safety of the campers
- Helped design a curriculum of basic Python for 10-15 year olds
- Taught the campers basic Python up to user-defined functions and loops
- Addressed questions and concerns from parents

2019 **Market Four Seasons** Market Four Seasons Facebook
Sales Associate
April - June
- Elicited customer needs
- Showed products to customers and made recommendations based on their stipulations
- Completed sales
- Unloaded inventory from the truck to the store
- Daily care of plants and flowers
- Opening and closing
- Inventory management and organization

2016-2017 **iNAGO** iNAGO
Co-op Student
September - June
- Tested a personal assistant meant for use in cars
- Improved conversational fluidity
- Expanded library of possible user inquiries
- Expanded library of assistant responses

Education

2018–Present **HBSc** Candidate in Physics and Astronomy University of Waterloo
- Computing Option
- Experience in PyTorch

Hobbies

2007-Present **Piano**

2007–Present **Squash**

2012–Present **Taekwondo**
Red Belt

2013–Present **Basketball**

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Projects

- Gas in a box simulation (Python)
  - Created a class that produces a simulation of N gas particles, approximated as circles of radius r, trapped in a 2D box.
  - The simulation could be used to produce a visual simulation of the gas in the box.
  - The class had several attributes such as the mass of each particle, particle radius, temperature, or box size.
  - By varying these attributes and plotting the results, certain physical laws can be demonstrated, e.g. showing the particle velocities follow a Maxwell-Boltzmann distribution.
- Star simulation (Python)
  - Created functions that would enable us to solve the equations of stellar structure.
  - These results can be used to simulate several different types of star with the only argument required being the central temperature.
  - The make_star function can be run several times to produce a Hertzsprung-Russell Diagram.
- Spectral Inference Networks (Python)
  - Combines spectral methods for solving differential equations and neural networks.
  - Can be used to approximate eigenfunctions of the Laplacian.
  - Potential future applications include solving quantum mechanics or fluid dynamic problems.
  - Worked with three others to create a new implementation in Jax based on this paper.
- NBA Statistical Analysis (Python/SQL)
  - Created a web scraper in Python to obtain NBA statistics from basketball reference and store them in SQL tables.
  - Ended with a SQL database containing all major statistics since the 1950s and all play-by-play data since play-by-play data started being recorded.
- Solar System Simulator (Java)
  - Created an animation of the Solar System with accurate relative planet speeds.
  - Added several buttons that changed the simulation in different ways e.g. Turn the Sun into a black hole, make the relative sizes of the planets correct
  - Added text fields that allowed the user to type in the rotational period of any of the planets in a variety of units. The relative rotational speeds of the other planets would remain correct at all times.
  - This was my final project for grade 12 computer science and I had a lot of fun making it.

Please contact me for references or a transcript
This resume was made from a LaTeXtemplate by Lizhen Zhu