**NATHAN ESAU**

A person posing for the camera

Description automatically generated

**Software Developer in Toronto Area**

* [**nathanesau1@gmail.com**](mailto:nathanesau1@gmail.com)A close up of a logo

  Description automatically generated778-323-5310  27 Green Bush Road, M2M1P2

Toronto, ON [**nathanesau.github.io**](http://nathanesau.github.io/)  [**linked.com/in/nathanesau**](http://linkedin.com/in/nathanesau)



**EXPERIENCE**

Software Developer (C++)

**Moody’s Analytics**

Jun 2017 – Present  Toronto, ON



* Helped maintain AXIS, a widely used actuarial software in North America
* Worked with 100+ programmers, helping add requested features, refactoring code, regression testing, fixing bugs
* Designing algorithms for numerical integration, stochastic simulations and valuing financial securities
* Added new interface elements such as financial reports and wrote database code for the application

Software Developer (C++)

**Moody’s Analytics**

Jan 2016 – Aug 2016  Toronto, ON



Research Intern

**Simon Fraser University**

May 2015 – Aug 2015  Burnaby, BC

* Researched and evaluated pension plan designs
* Programmed an economic scenario generator using a VAR(1) time series model
* Ported Excel Macros into R programming language

Statistics Intern

**Statistics Canada**

Jan 2015 – Apr 2015  Ottawa, ON

**SKILLS**

* Able to Analyze, Design, Implement Data Structures
* Able to Write Clear and Detailed Specifications and

Documentation

* Experience Using Source Control
* Experience Working on Large Software Projects
* Experience With Object Oriented Programming
* Working Experience of C, C++

**EDUCATION**

B.S. in Actuarial Science

**Simon Fraser University**

Sep 2012 - Apr 2017  Burnaby, BC

* Actuarial science is a blend of mathematics, statistics, finance, economics and computer science.
* Obtained ASA credential in 2018.

**PROJECTS**

Fantasy Tennis (Python)

[**nathanesau/FantasyTennis**](http://github.com/nathanesau/FantasyTennis)



* Draw Editor for Men’s Tennis. Scrapes data from ATP website. Allows user to make predictions on match outcomes.

Rook Card Game (C++)

[**nathanesau/RookGame**](http://github.com/nathanesau/RookGame)



* Implementation of Hasbro’s Rook card game in C++. Qt used for interface. Allows user to play against AI players.

Machine Learning Project (R)

 [**nathanesau/ukencompetition**](http://github.com/nathanesau/ukencompetition)

* Applied ML (random forest, gradient boost) to predict app revenue.

Q-Learning TicTacToe (Python)

 [**nathanesau/** **TicTacToeRL**](http://github.com/nathanesau/TicTacToeRL)

* Uses reinforcement learning to train AI to play Tic Tac Toe perfectly.

**LANGUAGES**

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| --- | --- | --- |
| **C++** |  |  |
| **Python** |  |  |
| **R** |  |  |
| **Java** |  |  |