Ilir Gusija

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Education

MASc., Mathematics and Engineering   2024-Present
Queen's University, Kingston, ON
- 4.23/4.3 GPA.
- **Thesis:** *SLAM as a Stochastic Control with Partial Information Problem: Optimal Solutions and Rigorous Approximations*
- **Relevant Coursework:** Analysis & Measure Theory; Modern Control Theory; Path Planning Algorithms for Robotics; Measure Theoretic Probability.

BASc., Mathematics and Engineering   2019-2024
Queen's University, Kingston, ON
- 3.91/4.3 GPA, Dean's Scholar (1st, 2nd, 3rd and 4th Year)
- **Capstone Project:** Nonlinear Transform Coding using Neural Networks
- **Relevant Coursework:** Information Theory; Stochastic Processes; Computer Vision with Deep Learning; Neural Networks & Genetic Algorithms; Linear Algebra; Computer Algorithms; Object-Oriented Programming; Data Structures and Algorithms.

Professional Experience

Software Engineer   Sept 2022 – Aug 2023
Huawei Technologies, Markham, ON
- C++ developer on an R&D team of seven people, developing C++ applications designed for big data engines.
- Maintained 4 separate development servers running Linux and setting up different development tools such as libraries and compilers.
- Interfaced with and maintain our in-house version of GitHub with a CI/CD pipeline.
- Set up a three-node Hadoop cluster running Apache Spark as a test environment for our applications.
- Worked on various C++ tasks that involved writing new code, fixing bugs, and improving existing code.

Full-Stack Engineer   May 2022 – Aug 2022
Citi Bank, Mississauga, ON
- Full-Stack Engineer on a team of 6 developing a brand-new corporate banking platform.
- Learned and worked with a full stack of technologies such as AngularJS**,** MongoDB and Java Spring Boot.
- Main project was an app that allowed developers quick access to different user accounts for the purpose of streamlining testing.
- Implemented a SSO sign-on to govern different user permissions for the application.
- Worked on a side-project with other interns to create a CI/CD pipeline using Jenkins, Docker, and OpenShift**.**

Academic Involvement

Graduate Teaching Assistantship   **Sept 2024 – Present**
- *Introduction to Probability, MTHE 351*:
  - Conduct weekly tutorials covering problems sets and answering any relevant questions.
  - Grade weekly assignments.
- *Applied Math for Civil Engineers, MTHE 224*:
  - Conduct weekly labs that involved implementing simulations in Python.
  - Graded weekly assignments.
- *Probability II, MTHE 353*:
  - Graded weekly assignments.
- *Differential and Integral Calculus, MATH 121*:
  - Graded midterms and exam.
- *Differential Equations for Engineering Science, MTHE 237*:
  - Graded weekly assignments

Undergraduate Teaching Assistantship   **Sept 2021 – Dec 2022**
Introduction to Computer Programming, APSC 143
- Graded assignments for a class of 400 students.

Extracurricular Experience

Industry Relations Chair   **Oct 2021 – Apr 2022**
Engineering Society, Queen's University
- Ran a virtual job fair with 18 companies, having a turnout of over **100 students**.
- Hosted Consulting Week, a weeklong event of information/networking sessions with companies such as BCG and Accenture making appearances.
- Provided a resume review service that aiding students in their job search.
- Combine with other committees to host joint events such as a resume workshop and mock interviews.

Team Member   **Oct 2021 – Apr 2022**
Queens University Algorithmic Network Trading & Trading Team (QUANTT)
- Collaborated with a team of five to create a trading algorithm in Python.
- The stock data was modelled using a stochastic process, which was implemented based on various pre-existing papers and codebases.
- Collaborated on a research paper that investigated a proposed model which preprocessed data through a Kalman Filter and used an LSTM to model stock prices.

Awards and Distinctions

Queen Elizabeth II Graduate Scholarship in Science and Technology   **2024**
Queen's University, Kingston, ON
- A merit-based award available to graduate students in approved research programs in science and technology disciplines at participating schools in Ontario, Canada.

Shirley Bell Award   **2021, 2023**

Queen's University, Kingston, ON

- Awarded to mathematics students based on academic achievement and financial need.