UBC Science Co-op

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Mert Kipcak

Aspiring Software Developer and/or Data Scientist | Honours Mathematics & Computer Science

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Skills

Languages: Java, Python, C/C++, Dart, JavaScript/TypeScript
Web: Swing, Basic HTML
Data Science: Python (matplotlib, Pandas, NumPy, Scipy), SQL, JupyterLab/Notebooks, Excel
Tools/Frameworks: Git/GitHub, JUnit, AWS Sagemaker/Athena
Competencies: Agile and creative problem solving, algorithm creation, optimization, data wrangling, analysis, cleaning, and visualization

Experience

Junior Data Science Intern June 2021 – August 2021
Sisecam

- Cleaned and wrangled data used for glass furnace energy optimization and electricity price forecasting
- Helped decrease energy consumption of the furnaces by approximately 2% using machine learning models.
- Visualized and explored the correlations of data acquired over 6 months from 672 different sensors.
- Debugged, documented, and optimized previously used code, dropping processing times from 10~ minutes to 20 seconds in one case.

Software Developer Intern September 2022 – April 2023
Demonware

- Worked on the newest Call of Duty game to develop services that enable multiplayer for one of the biggest gaming franchises in the world where many millions of people went through our services concurrently.
- Used Docker and Kubernetes (both using GCloud and on specific Demonware servers) extensively to deploy the services developed at a large scale.
- Worked with a variety of technical tools such as Python 2-3, C++, Erlang, Redis, Docker, SQL, Elastic Search and many other metric and development tools. Heavy use of Linux (Ubuntu 20.04), and extensive usage of RESTful API calls to other Demonware services and first party clients as well as other protocols such as UDP and TCP.
- Worked in an agile fashion with daily stand-ups, bi-weekly retros, heavy collaboration using git and GitHub on rapidly changing software according to client needs. Contributed to actual product services on a weekly basis and have many active services using my code.

Technical Projects

Lift Off - Java, JSON saving, Java Swing Library September 2020 - December 2020

- Developed a computer game similar to popular games like Temple Run or Subway Surfers. Used Java and Swing library to build the game from the ground up with different screens and states.
- Used rigorous testing for each of the functions and parts of the code, also commented and explained every single function.
- Achieved a mark of 97/100.

Search Algorithm Code Snippets – Java, Python

- Coded different versions of the search algorithm consisting of maze solvers, maze creators, and a visual sudoku solver. (Using brute-force algorithms)

Campus Explorer – Typescript, JSON, JavaScript, HTML, Rest API calls

- Developed a web app that helped UBC students to filter, compare and visualize UBC courses, in terms of various categories such as averages, instructors and pass percentages. This app also had a side utility of filtering lecture rooms in UBC according to their seat numbers, buildings, etc.
- Worked with a partner using GitHub utilities such as branching, issues, merging and pulling. The app was developed with object-oriented design in mind and front end used REST API calls on this object oriented back-end to use the functionality. Back-end was also tested using Chai.
- Project achieved 100% from the demonstration and teamwork phase.

Tile Map Generator– C#, Unity, Object Oriented Design, Design patterns

- Created a Domain Specific programming language to generate 2D realistic looking terrain using Perlin noise maps for an advanced software engineering class. This DSL could be used for both gaming purposes and for artistic purposes.
- Worked as a group of 5 using GitHub and used common OOD patterns like the visitor pattern and ANTLR to lex and parse our language.
- DSL had complex features like variables, loops, functions, and conditionals. I worked on scopes, memory, and how the program executed the statements.

Education

Bachelor of Science: Combined Honours in Mathematics and Computer Science
Expected: 2024
University of British Columbia

- General Average: 88.5
- Field Courses Average: 92.3
- Dean’s Honour List
- 6500$ Scholarship

Relevant courses

- **Computer science courses:** Software Construction, Basic Algorithms and Data Structures, Introduction to Computer Systems, Introduction to Software Engineering, Hardwares and Operating Systems. Advanced Software Engineering. Intermediate algorithm design.

- **Mathematics courses:** Honours Derivative, Integral and Multivariable Calculus, Honours Linear Algebra, Differential Equations, Introduction to Probability, Honours Real Variables 1/2
- **Statistics courses:** Introduction to Statistics

Leadership / Volunteering

Bostanci Interact/ Bostanci Rotary - Member (2 years), Accountant (1 year) 2017 - 2019

- Financially helped children in Southwest Turkey by raising awareness, selling miscellaneous items, and collecting donations to raise money. Helped up to 50 children with their basic needs like shoes, pencils, notebooks.

Bostanci CoderDojo /CoderDojo - Mentor/Teacher ç

- I taught the basics of programming to a class of 20 students using Scratch and several different resources on the Internet.

Interests

- Mathematics and Computer Science: I love my majors not just as a profession, but I also really enjoy reading and watching videos about them!
- I also spend a significant amount of time solving challenging problems. (World Top 200 in International Math competition Euclid organized by University of Waterloo.)
- Tech savvy: Follows every end user related tech news such as mobile devices or PC parts.