

# Shakeel Khan

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## SKILLS

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**Programming Languages:** C++/C, Java, C#, Python, SQL, HTML/CSS and JavaScript.

**Methodologies/Models:** Object-Oriented Programming (OOP), Encapsulation and Agile Development.

**Tools:** Amazon Web Services (AWS), Git, GitHub, Unix, Unity, Visual Studio Code and IntelliJ IDEA.

**Frameworks:** OpenCV, NumPy, Jupyter Notebooks, Matplotlib, Seaborn and Pandas.

## EDUCATION

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**Bachelor of Science in Computer Science and Software Engineering**

Sep 2020 – Jun 2022

University of Washington | Bothell, WA

- **GPA:** 3.73.
- **Programming Coursework:** Data Structures, Algorithms, and Discrete Math I and II, Operating Systems, Computer Hardware, Database Systems, Computer Vision, Game Design, Cloud Computing, Intro to Artificial Intelligence.
- **Other Coursework:** Technical Writing, Software Engineering and Analysis & Design.

**Running Start**

Sep 2018 – Jun 2020

Cascadia College | Bothell, WA

- **GPA:** 3.68.
- **Programming Coursework:** Intermediate Programming, Data Structures and Structures & Algorithms.
- **Other Coursework:** Linear Algebra, Differential Equations, Statistics, and Calculus I, II, and III.

## SOFTWARE DEVELOPMENT EXPERIENCE

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**Software Developer**, Intelligent Networks Laboratory | Bothell, WA

Jun 2021 – Dec 2021

- Contributed to a graphical provenance visualization tool, Workbench, used for managing eScience simulations.
- Re-wrote parts of the tool using Java to work with the laboratory's new simulator, Graphitti, from the old simulator BrainGrid, getting it closer to becoming a production-ready tool.
- Wrote internal developer documentation in Markdown to better onramp future contributors.

**CodeLabs Intern**, CodeDay | Remote

Jul 2020

- Worked in a team of 3 to re-train Pafnucy, a drug discovery neural network, using Python and Tensorflow.
- Wrote a script in Python using Pandas to clean 10-12 Gigabytes of biological data from a database and split it into sets required for training the model.
- Created a Jupyter Notebook which generates graphs using Seaborn and Matplotlib and calculates metrics using NumPy to assess the model's performance.

## SOFTWARE PROJECTS

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**Galaxy Busters**

Nov 2021 – Dec 2021

- Worked in a team of 4 to make a bullet-hell space shooter in 5 weeks from scratch using the Unity game engine.
- Developed an inventory system in C# so players could collect powerups and upgrades throughout gameplay.
- Designed and implemented a component-based software architecture for the player's character in C#, improving maintainability and reusability for shared parts of code between the characters.

**Robotics with Computer Vision**

Sep 2018 – Dec 2020

- Developed CV pipelines in Python using OpenCV for a FIRST Robotics Competition robot that would aid in automating complex tasks, such as scoring game pieces.
- Built an all-in-one CV platform with a Raspberry Pi and camera to run the CV pipelines.
- Made a web interface for the platform using Flask, WebSockets, HTML/CSS and JavaScript to easily edit parameters of the pipeline in real time.

**Sky-High Memes**

Mar 2022

- Worked in a team of 4 to make a website for creating and sharing memes hosted on AWS.
- Responsible for configuring the production environment in AWS and delegating access for all team members.
- Developed the backend in Python using Flask to implement nearly all the site functionality.
- Utilized an AWS DynamoDB table and Flask-Login to store user information and handle user session management.