Ali Toghani

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EDUCATION

University of Washington, Seattle, WA   *Expected Graduation: Fall 2024*
Bachelor of Science in Computer Science   GPA: 3.6
Relevant Coursework: Software Design and Implementation, Hardware/Software Interface, Data Structures and Algorithms
Awards: The Washington Research Foundation Fellowship 2023-2024

Whatcom Community College, Bellingham, WA   *Graduated: Spring 2022*
Associates of Arts and Sciences   GPA: 3.9
Awards: Computer Science Disciplinary 2021

RELEVANT EXPERIENCE

Undergraduate Researcher, Dr. Nance Lab, University of Washington, Seattle, WA   *July 2020 - Present*

- Pioneering research in applying advanced deep learning techniques to Multiple Particle Tracking data, revealing complex features and interactions, recognized by the Washington Research Foundation Fellowship 2023-2024.
- Currently a goal of uncovering patterns and interactions and achieving an accuracy improvement of over 85%
- In process of creating an open-source Python package for MPT data analysis, facilitating wider research collaboration

Teaching Assistant, Software Design and Implementation, University of Washington, Seattle, WA   *September 2023 – Present*

- Led weekly interactive sessions for 30+ students with live demos and presentations, creating a dynamic learning environment
- Hosted regular office hours, providing personalized support and clarifying topics in system designs and software best practices
- Enhanced students' hands-on skills in React through practical exercises, boosting their problem-solving abilities

Lab Aide, Dr. Silberstein Lab, Fred Hutch, Seattle, WA   *September 2022 – Present*

- Collaborated in designing compelling data visualizations for a forthcoming publication on stem cell regulation
- Conducted differential gene expression analysis using the DESeq2 R library, extracting insights from experimental
- Performed Gene Set Enrichment Analysis to elucidate mechanisms underlying enhanced blood cell production

Computer Science and Math Tutor, Whatcom Community College, Bellingham, WA   *November 2020 – August 2022*

- Engaged with 200+ students from diverse learning and language backgrounds, providing tailored support in advanced mathematics such as Linear Algebra, and Calculus IV and introductory Java classes

PROJECTS

GameStat Tracker| Python, Typescript, JavaScript, React, Firebase Database | Kingdom1418.com   *June 2023 – Present*

- Developed a player statistic collection bot to gather statistic for each player in a game server
- Increased efficiency of stat collection by over 300% from 3+ hours to 40 minutes for a userbase of over 500 users
- Created a website using TypeScript and React to provide users with personalized access to their individual and server statistic
- Designed and maintained a secure database structure using Firebase to store and retrieve the collected player stats securely

Learning Center Android App | Java, Android Studios, Firebase Database   *November 2020 – August 2022*

- Developed an Android app using Java and Android Studio to connect tutors and students within Math Center, reducing the time spent on in-person tutor requests. Goal of increasing efficiency of wait times by over 40%
- Integrated Firebase Database to optimize tutor scheduling, payroll management, and availability tracking for over 60 tutors
- Improved efficiency by enabling students to request 1-on-1 tutors through the app, minimizing wait times and enhancing the overall tutoring experience

SKILLS

Programming Languages: Java, Python, TypeScript, JavaScript (React, React Native), Cython, MATLAB, R, C, Swift, HTML, CSS
Databases: Firebase, SQLite, SQL, Microsoft SQL server,
Tools, Technologies, Frameworks & libraries: Docker, Apptainer, Git, Pandas, NumPy, SciPy, TensorFlow, Pytorch
Cloud & DevOps: AWS, Google Cloud, Microsoft Azure, Heroku,