

Maryam Zahiri

Software Engineer

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Software engineer with extensive experience in **application development, gaming, robotics**. Proven expertise in developing **cross-platform, full-stack** solutions using **Python, Gaming Programming Code, JavaScript** and **C/C++** to enhance functionality and efficiency in complex systems while driving continuous innovation and user satisfaction.

WORK EXPERIENCE

Software Engineer

Collective Minds, Gaming Industry won awards & known as top seller, Vancouver, Canada

Feb 2021 – Present

Developing cross-platform middleware, **API** and front-end, server-client **product** applications

- Optimized cross-platform GamePack code using **GPC (C-based)** and **Python** for embedded systems, Xbox/PS4 controllers and mobile apps, improving user experience by 68%.
- Structured and **modularized GPC** source code, segmenting functions into manageable modules to streamline maintenance.
- Merged **GPC modules** using a custom **Python**-based pre-compiler, generating binary and JSON outputs for seamless push-pull data integration between the Strikepack system and mobile app, resulting in a significant reduction in data processing time.
- **Compiled** and **debugged** over **12k** lines of **large-scale GPC** code with a **Python**-based pre-compiler, verifying controller I/O on the Zen system to ensure GamePack app functionality.
- Implemented **computer vision** techniques (YOLO, template matching, masking, shape detection) to automate gameplay analysis, reducing manual input and errors, enhancing game development efficiency. ([Read More](#))
- Developed custom Web Components to create **HTML** tags, **CSS** styles, and **JavaScript** templates using Visual Studio Code and Android Studio, leading to streamlined front-end UI **app product** (Strikepack Central Mobile App) for games. ([Read More](#))
- Developed generator, mod, and patented macro codes in **GPC** for **cross-platform** protocols, supporting games like SF6, MK, FIFA, and GTA using Visual Studio Code, Zen Studio, Android Studio and a custom pre-compiler in **Python**.
- Developed an **android chat** application as a **client** via **Bluetooth** in **Java** using Android Studio.

Skills: GPC, Python, JavaScript, HTML, CSS, Java ([Read More](#))

Software Engineer

OFF-GRID GAS, Design & Operate small-scale & pilot gas Systems, Vancouver, Canada

Jan 2020 – Dec. 2020

Developed software to automate processes and log data for smart IOT systems, accessible on cloud, servers, and web

- Built a server-based web app using microcontroller and Linux with **MySQL, PHP, Python, C++**, and **HTML (LAMP)** to automate data storage, improving access and reliability of data on the server.
- Developed smart **IoT** automation for data logging on an embedded system, integrating **Python, Shell**, and **C++**, resulting in efficient data management.
- Developed scripted notifications and APIs using **Bash** and **Python**, automating web requests and event triggers on servers, lowering travel costs by 30%, and saving time through process automation.
- Developed software for detection applications using **C++** for calibration and data monitoring through UART, I2C, SPI, USB, and Wi-Fi, resulting in enhanced system accuracy and responsiveness.
- Developed **Python** and **Bash** scripts to update real-time data, parsed codes into distinct columns, and automated file transfers via **Google** server and Dropbox **cloud API**, improving workflow efficiency.

Skills: Python, MySQL database, PHP, C++, HTML ([Read More](#))

Internship

May 2019 – Dec. 2019

- Integrated **Python** code for local data logging using **C++** on an ARM operating system, AVR microcontroller and SD card module, improving data retrieval efficiency
- Developed **IP networking** support, including port forwarding, NAT, and bridging through **command-line**, integrating these features into an ARM-based operating system to create a dynamic router

Skills: Python, command lines, basic programming language

Software Engineer

CEZANNE, Innovative Interior Design and Construction Management Solutions, Iran

Nov 2016 – June 2018

Development of cost-effective business solutions and automated performances

- Programmed a custom software application for auto-tracking and extracting product information, and business expenses through web scraping using **Python** and **HTML**, meeting project constraints for time and budget.
- Developed customized **software** for computational information, and financials by integrating **Python** in Linux operating system.

Skills: Python, HTML, shell scripts

Part-time

Jan. 2015 – Oct. 2016

- Gained extensive experience in **C++** and **C#**, resulting in enhanced software development and programming proficiency.
- Led the development of a user registration form in **C#** with **SQL** Server, ensuring validation of user information.

Skills: C++, C#, SQL

EDUCATION

Master, Mechatronics Engineering, UBC, Vancouver, Canada

Sep. 2018 – June 2020

Robotic Project, CARIS Lab, UBC, Vancouver, Canada ([Read More](#))

Implemented a real-time application for the QR Code recognition in **Linux** environment based on Robot **computer vision**, **C++**

- Developed a QR code detection and tracking process in **C++** for a robot on Intel, improving navigation responsiveness.
- Deployed face detection algorithm, followed the nearest person by a mobile robot in **Python** using **computer vision** in **Linux** Human Interface Technology Project. ([Read More](#))

• Developed a **Python**-based platform for detecting non-speech sounds, utilizing **OCR** and **deep learning** for text recognition.

AWS Cloud Integration Project

- Strengthened **AWS cloud** skill in real-time data streaming and supervised **ML** in **Jupyter** Notebook and **S3**.

Bachelor, Robotics Engineering, SUT, Shahrood, Iran

Sept. 2010 – July 2014

Robot Vision Project, ROBOT Lab, SUT, Shahrood, Iran

- Stereo vision **Images Processing** for **object distance detection** using **MATLAB**, enhancing depth perception.

AWARDS

Winner in Hackathon

1st & 2nd award, ICP Hub and NexusGPT, Vancouver, Canada ([Read More](#))

May 2024

- Developed **web** application for medical **AI** services using **JavaScript**, **CSS**, **html**, **Python** (flask), **AI** and **docker** in **wsl** terminal.

1st-ranked winner, Sick Solution Intelligence & NTTDATA, Waldrich, Germany ([Read More](#))

Oct. 2023

- Applied Google's pose estimation model using **Python**, **Computer Vision** to improve genAI system.

TECHNICAL SKILLS

Software Skills

Python, GPC, JavaScript, HTML, CSS, CV, C, C++, Java, C#, Bash, MySQL, PHP, Scripting, Source Control