

# Amirreza Behmanesh

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## EXPERIENCE

### AppTeams, Tehran, Iran— *Software Developer*

June 2020 - September 2023

- Developed 3 Telegram bots ([MiniSudoku](#), [Ramzjo](#), [Esmjo](#)) with more than **30000 monthly active users** on average using **Python**.
- Redesigned the game-generation algorithm for the MiniSudoku Telegram bot, reducing generation time from **30 seconds to 5 seconds (83% speedup)**.
- Developed 2 Unity games ([CodeMind](#), [QuizMaster](#)) with **C#** with more than **10000 downloads**.
- Reduced connection latency in each multiplayer game round by using Websockets instead of WebAPIs from **3 seconds to 50 ms** which is approximately **98% speedup**.
- Optimized the company website's SEO through **keyword-driven content generation** and **Google Analytics**, doubling daily users from 100 to 200 (**100% increase**).

### Mofid High School, Tehran, Iran— *Python Teacher*

July 2023 - September 2023

- **Taught Python** programming to **60** middle school students.
- Designed 5 Python exercises (each with 5 programming questions) on Quera for student practice.
- Defined 5 projects and mentored 5 teams with different numbers of team members.

### INSERM U1093 CAPS- Université de Bourgogne, Bourgogne, France— *Research Assistant*

September 2024 - November 2024

- Designed and developed an AI model to analyze **9 subjects** motor skill acquisition during 20 session training their non-dominant hand.
- Switched from Regression to FCM Clustering which increased clustering accuracy from **70% to 80%**.
- Developed an optimization-based algorithm for skill acquisition process modeling for subjects which had nearly **90%** accuracy.
- Published **2 articles** (1 pending) based on this research.
- Delivered an oral presentation titled *Unlocking individual motor signatures using feature-based clustering of a graphomotor task* (article

## SKILLS

### Programming Languages

Python (expert), TypeScript (expert), C & C# (prior experience), Java (prior experience).

### Tools

Angular, Docker, RabbitMQ, Git, Docker Compose, Metabase, Prometheus, Grafana, Nginx, MongoDB, SQL, FastAPI, Ionic, Wireguard, OpenCV, pyTelegramBotAPI, Tensorflow, Scikit-Learn, PyTorch, Ultralytics.

### Methodologies

Agile, Scrum.

### Familiar With

Unit Testing, Meltano, ETL, Apache.

## LANGUAGES

English (professional proficiency), Persian (native).

title) at the **first International Conference for Artificial Intelligence (ICAI)**.

## **CompisionProject, Tehran, Iran— *Technical Officer (Co-Founder)***

July 2022 - PRESENT

- Developed a Computer Vision system for counting crossing person count based on CCTV cameras footage.
- Redesigned MongoDB database schema and relationships, reducing query response time **from 5 seconds to 100 ms** (98% latency reduction).
- Applied efficient indexing on MongoDB database to decrease response time by **80%**.
- Optimized Back-Ed MongoDB aggregations, reducing response time from **100 ms to 10 ms**, which is a **90%** speedup.
- Replaced **SQL-based queues** to **RabbitMQ** (persistent-queue) in the Worker application to ensure data integrity during crashes.
- Developed an FFmpeg compression algorithm that maintained quality while reducing footage volume by **90%**.
- Enhanced YOLOv8-based person-counting model via **quantization and compression**, improving per-frame detection speed from **200ms to 20ms** (90% faster).
- Increased the Back-End application response time by **90%** using Gunicorn and distributing the load on multiple workers.

## **EDUCATION**

### **Amirkabir University of Technology, Iran, Tehran— *M.Sc. Artificial Intelligence***

October 2023 - PRESENT

Thesis: *Pretrained Neural Network Models Fine-tuning using Reinforcement Learning*.

### **Amirkabir University of Technology, Iran, Tehran— *B.Sc. Computer Engineering***

October 2018 - September 2023

Thesis: *Diabetic Retinopathy Detection using Modified Convolutional Neural Networks*.

## **PROJECTS**

### **Scitone — *Publishing Website***

- Developed and designed Front-End of **3 dashboards** for three different roles with different capabilities.
- Architected shared classes/functions, reducing project file size and improving load speed by **80%**.