# Erfan Habibi Ehsani

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#### Education

**B.Sc. in Mathematics and Computer Science**, Amirkabir University of Technology, Tehran, Iran

2020 - Present

**Expected Graduation: 2025** 

Relevant Coursework: Data Structures, Algorithms, Machine Learning, Advanced Programming

## **Experience**

#### **Personal and Academic Coding Projects**

2021 - Present

## **Highlights:**

- Developed a Python application utilizing OpenCV for real-time image processing, enabling features such as object detection and image filtering.
- Implemented a data mining project using Python, extracting valuable insights from large datasets with libraries like pandas and NumPy to inform decision-making.
- Created interactive web applications using Java and JavaScript, enhancing user experience through dynamic content and responsive design.

# **Projects**

# **Server-Client Communication System**

github.com/Erfanhabibi/python-socket

#### **Highlights:**

- Implemented a server-client communication system using Python's sockets for transferring images and audio data.
- Server: Utilizes Tkinter for the GUI and OpenCV for capturing images from the webcam, along with PyAudio for recording audio.
- Prerequisites: Python 3.x, OpenCV, PyAudio, Pillow.
- Usage: Run the server.py script, click "Start Server" to initialize, and capture images and record audio. Received files are saved in the captured\_images\_server and captured\_audio\_server folders.
- Client: Responsible for sending images and audio data to the server. Implemented separately based on the server's IP address and port numbers.
- Notes: Ensure proper network configurations for communication; adjust the IP address and port numbers in the code as needed.

#### Skills

Programming Languages: Python, C++, Java, C

Web Development: HTML, CSS, JavaScript, React, Django

Machine Learning: Python libraries such as NumPy, pandas, scikit-learn, TensorFlow, Keras

Image Processing: Python libraries such as OpenCV, Pillow, scikit-image

**Data Mining:** Knowledge of data analysis and mining techniques (e.g., pandas, NumPy, BeautifulSoup) **Networking:** Understanding of networking protocols, TCP/IP, and experience with socket programming

**Linux:** Basic knowledge of Linux concepts and commands **Other:** Git, Algorithms, Data Structures, Problem Solving