

# Youssef Azougagh

Languages: Arabic (Native) | French (intermediate)

 Stamford, CT, 06905  (475) 689-9501  [youssef.azougagh96@gmail.com](mailto:youssef.azougagh96@gmail.com)  [/in/youazo96](https://www.linkedin.com/in/youazo96)  [/YouAzo96](https://github.com/YouAzo96)

Computer Science alumnus and experienced Software Developer with a strong background in full-stack development. Skilled in delivering quality software solutions from inception to deployment; Strong communicator and team player with proven leadership and project management abilities.

- Trained different deep learning models to achieve high accuracy, optimizing hyperparameters and data pipelines.
- Built 6+ full-stack apps with secure auth, databases, and CI/CD deployment.
- Led Agile teams (4 members) to deliver software projects end-to-end, from ideation to deployment.

## SKILLS

Languages	Python   Java   PHP   JavaScript   SQL   C   C#
Backend Development	Node.js   Express.js   MySQL   MongoDB   Flask   .NET
Front End Development	React.js   HTML5   CSS   JavaScript   jQuery   Bootstrap   Spring
Miscellaneous	Problem Solving   Functional Programming   Software Security   SDLC   Machine Learning   Deep Learning   AI Training   Web Protocols   Unit Testing   Debugging   Cloud Computing   CRUD API   IBM cloud   AWS   OOP   UML   Agile   ERD   REST APIs   GraphQL   Containers   Docker   Kubernetes   Microservices   Serverless   MVC   Linux   GitHub   Microsoft office   Visual Studio   IntelliJ   Postman   Distributed systems   Kafka   NoSQL   XML   Hadoop   Ajax   PWA

## Education

<b>Bachelor's degree in computer science   Minor in Math   GPA: 3.2</b>	[2021- Dec 2023]
Southern Connecticut State University Data Structures and Algorithms, Software Design and Development, Database Design and Development, Operating Systems, Distributed Systems, Linear Algebra, Applied Statistics, Calculus II, Artificial Intelligence, Deep Learning.	
<b>Associate degree in computer science   GPA: 3.5</b>	[2017-2020]
Norwalk Community College Object Oriented Programming, Data Structures, Android Development, Java, Databases (ERD, Oracle DB)	

## Work Experience

### Software Developer

[2021 – current]

- o Developed and delivered custom software solutions for various clients, including web applications, desktop apps, and automation tools, demonstrating versatility and adaptability in meeting diverse needs.
- o Created and enhanced full-stack web applications and e-commerce platforms, improving user experience, increasing conversion rates, and streamlining workflows.
- o Designed and implemented automation tools, resulting in significant time savings and operational efficiency for clients across different industries.
- o Highlighted Projects:
  - Developed a custom software suite for health care providers **using C# .NET and MySQL, saving clients 25 hours of manual bookkeeping weekly** and improving customer experience.
  - Designed and developed a **full-stack e-commerce** website using a PHP REST Api and a dynamic, responsive JavaScript and Ajax frontend, enhancing the checkout experience and **increasing conversion rates by 25%.**
  - Created an **automation tool** for a transportation company using Java, **saving 15 hours of manual work weekly** by automating Excel sheets processing.

Technologies: **Java, C#, PHP, MySQL, .NET, Apache server, JavaScript, HTML, CSS, Bootstrap, jQuery, AJAX, OOP, REST APIs.**

### Certified Senior Tutor | Norwalk Community College

[2018-2019]

- o Tutored students in Data Structures, Algorithms, OOP, Java, and Android development, fostering a problem-solving approach to help them tackle coding challenges.

## Selected Projects

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### Real-time Microservices Chat App

- Developed a privacy-focused chat application with **real-time messaging** (WebSocket) and **video/audio calls** (WebRTC), prioritizing low-latency communication.
- Implemented **JWT authentication** and **Firestore push notifications** to enhance user experience and security.
- Containerized microservices (auth, gateway, chat) using **Docker** for scalability and deployed on **IBM Cloud** via CI/CD pipelines.

Technologies used: **Node.js, Express.js, React.js, WebSocket, WebRTC, JWT, Docker, IndexedDB API, Jest.js, visual studio.**

### Carpooling Web Ap

- Led a **4-person Agile team** to build a full-stack platform for ridesharing among students and faculty, fostering community engagement.
- Designed a **Flask REST API** with **MySQL** backend, optimizing database queries using **SQLAlchemy ORM**.
- Created a dynamic frontend with **Bootstrap/jQuery**, featuring real-time chat and ride-matching functionality.

Technologies used: **HTML, CSS, Bootstrap, jQuery, JavaScript, Python, Flask, MySQL, SQLAlchemy (ORM).**

### Store Management System (Desktop)

- Developed a **JavaFX** application with **multithreaded** data processing, handling 10,000+ patient records and reducing invoice generation time from **5 mins to 30 secs** and saving stores up to 20 hours per week of payroll.
- Designed **role-based access control (RBAC)** for admins/opticians and a **secure patient portal** with SQL injection safeguards.
- Built a secure web interface allowing patients to track orders, access information, and communicate with opticians.
- Ensured robust data security by implementing measures to prevent SQL injection attacks, safeguarding sensitive information and adhering to industry best practices.

Technologies used: **Java, JavaFX, JDBC, MySQL, OOP principles.**

### AI-Powered Wildlife Detection System

- Engineered an object detection pipeline using Detectron2 and Mask R-CNN, achieving 77.7% average precision (AP)—nearly doubling baseline performance—to identify endangered species in real-world imagery.
- Led end-to-end dataset curation (1,500+ images) and preprocessing, optimizing annotations (YOLO format) and augmenting data to enhance model generalization for low-resource edge cases.
- Spearheaded model experimentation, comparing Faster R-CNN (40.4% AP) and Mask R-CNN architectures, with hyperparameter tuning (learning rates, epochs) to maximize accuracy.
- Diagnosed failure modes (e.g., false positives on rocks/elephants) via error analysis, proposing future optimizations like cross-validation and fine-tuning to close gaps.

**Tech Stack:** Python, Detectron2, CNNs, Data Augmentation

## Certificates

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- **Networks and Systems Technician (Morocco, 2015-2017)**
- **Agile Software development (LinkedIn, Mar 2020)**