

# Mohamed Abdelmalek

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Work Authorization: U.S. Citizen

## EDUCATION

### Bachelor of Science in Computer Engineering

Dec 2023

University of South Florida (USF), Tampa, FL

#### Relevant Coursework:

Data Structures | Analysis of Algorithms | Software Development | Operating Systems | System Design

## SKILLS

- **Languages & Frameworks:** Java, Python, JavaScript, React, Node.js, C++, C#, HTML, CSS, Spring Boot, TensorFlow, Flask
- **Databases:** SQL, PostgreSQL, NoSQL
- **Tools:** Git, Docker, IntelliJ, VS Code, Postman, Google Colab
- **Core Concepts:** OOP, REST APIs, SDLC, Agile/Scrum, Unit Testing

## TECHNICAL PROJECTS

### Fraud Detection Model – Applied ML / JP Morgan Chase / Python, OCR, Google Colab | [View on GitHub](#) Aug – Dec 2023

- Engineered and trained a supervised CNN model using TensorFlow to detect fraudulent checks, achieving 95% F1-score.
- Constructed an end-to-end pipeline from image preprocessing to evaluation in Google Colab.
- Optimized model accuracy through hyperparameter tuning and cross-validation.

### Retail Match – Content-Based Recommender | Python, Flask, scikit-learn, Pandas | [View on GitHub](#) Jun – Aug 2025

- Implemented a Flask API and web UI to recommend similar products using TF-IDF vectorization and cosine similarity.
- Analyzed retail product data, applying text preprocessing and term-weighting techniques to compute word importance.
- Built an interactive front-end for selecting product categories and dynamically displaying top-matching items in real time.

### Vehicle Inventory Management System | Java, Spring Boot, MySQL | [View on GitHub](#) Jan – May 2023

- Created a CRUD-enabled vehicle inventory application using OOP principles with a MySQL database.
- Integrated Spring Boot with the Java Collections Framework for backend data operations.
- Enhanced application reliability through validation, error handling, and optimized database queries.

### Community Hackathon Event Site – Full Stack | HTML, CSS, JS, Flask | [View on GitHub](#) Feb – May 2025

- Designed a responsive web interface with RSVP form and localStorage state handling.
- Developed a Flask backend to process submissions and manage attendee data.
- Improved user experience by streamlining form handling and persistent data storage.

## WORK EXPERIENCE

### Software & Systems Support Engineer – Best Buy Co. Inc., Spring Hill, FL

Jul 2020 – Present

(Official Title: Advanced Repair Agent)

- Implemented Python scripts to automate system health and diagnostics checks, cutting troubleshooting time 15%.
- Built a Java-based log parser with regex to identify recurring error codes, cutting log analysis time by 20%.
- Used SQL queries to validate repair order and account data, preventing delays and data mismatches.
- Resolved 1,000+ software/system issues via root cause analysis and configuration fixes, maintaining 95% SLA.
- Collaborated with cross-functional IT teams to report software issues, validate fixes, and improve workflows by 15%.
- Mentored new hires through technical walkthroughs and SOP documentation, improving onboarding efficiency by 30%.

## CERTIFICATIONS

- AWS Certified Cloud Practitioner – In Progress (Expected Fall 2025)
- Technical Interview Prep (Advanced) CodePath • Spring 2025
- Web Development (Intermediate) CodePath • Spring 2025