

# Mohamed Abdelmalek

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Portfolio: [mabdelmalek-dev.github.io](https://mabdelmalek-dev.github.io)

## EDUCATION

- University of South Florida — **B.S. in Computer Engineering** Graduated: Dec 2023
- Relevant Coursework:** Algorithms, Data Structures, Software Development, Operating Systems

## TECHNICAL SKILLS

- Languages & Frameworks:** Java, Python, JavaScript (React, Node.js), HTML, CSS, Spring Boot, Flask
- Databases:** SQL, PostgreSQL, NoSQL
- Core Competencies:** OOP, REST APIs, SDLC, Agile/Scrum, Unit Testing (JUnit)
- Tools & Platforms:** Git, GitHub, Docker, IntelliJ, VS Code, Postman, AWS(EC2), GitHub Actions (CI/CD)

## PROJECTS

**Capstone Project** (Supervised by *JP Morgan & Chase Co. Software Team*) / Python, OCR [GitHub](#) Aug – Dec 2023

- Trained an ML model using TensorFlow to detect fraudulent checks, achieving 95% F1-score (high precision & recall).
- 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 System** | Python, Flask, scikit-learn, Pandas [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.
- Engineered an interactive front-end for selecting product categories and displaying top-matching items in real time.

**Vehicle Inventory Management System** | Java, Spring Boot, MySQL [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.
- Configured a GitHub Actions CI/CD pipeline to run JUnit tests and deploy the application, ensuring reliability.

**Community Hackathon Event Platform – Full Stack Web App** | HTML, CSS, JS, Flask [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** (Geek Squad, Best Buy) – Spring Hill, FL May 2021 – Present

(Official title: Advanced Technical Agent)

- Built Java utilities with regex for log parsing and error detection, accelerating resolution by 20%.
- Automated application health checks and diagnostics with Python scripts, reducing troubleshooting time by 15%.
- Queried and validated repair order and account data using SQL, preventing mismatches and delays in workflows.
- Debugged 1,000+ software defects annually through root cause analysis and configuration fixes.
- Streamlined updates, drivers, and service management with Bash and PowerShell, automating recurring tasks.
- Mentored new team members on technical workflows and system procedures, boosting onboarding speed by 30%.

## CERTIFICATIONS

- Technical Interview Prep (Advanced) CodePath • Spring 2025
- Web Development (Intermediate) CodePath • Spring 2025

## ADDITIONAL INFORMATION

- Authorized to work in the U.S. without sponsorship | Open to Remote or Relocation Job Opportunities