Ahmed Belghith

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SUMMARY

Master's student in Computer Science with a passion for front-end development and React. Experienced in building responsive web applications, RESTful API integration, and database design. Committed to delivering high-quality code through test-driven development and continuous integration. Self-motivated problem-solver who thrives on learning new technologies and collaborating with cross-functional teams to create customer-focused solutions.

EDUCATION

Oakland University — Rochester, MI
Master of Science in Computer Science; GPA: 3.7/4.0 — *Aug. 2023 – Dec. 2025*

MedTech - Mediterranean Institute of Technology — Tunis, Tunisia
Bachelor in Software Engineering; GPA: 3.6/4.0 — *Aug. 2019 – May. 2023*

EXPERIENCE

Aiventu — Tunis, Tunisia
Full Stack Web Developer Intern — *Jun 2021 - Jun 2023*

- **React Development**: Designed and implemented a study room reservation system using React, TypeScript, and Tailwind CSS. Built reusable components, implemented state management with Redux, and created responsive UI with 98% mobile compatibility. Integrated with RESTful APIs for real-time data synchronization and implemented Jest unit tests for critical components.
- **Front-end Architecture**: Collaborated with senior developers to establish best practices for component structure, state management, and API integration. Implemented code reviews and maintained documentation to ensure consistent development patterns across the team.
- **Angular Development**: Developed an Employee Management System (EMS) using Angular, enabling CRUD operations with MySQL database integration. Implemented responsive design patterns and form validation for improved user experience. Utilized Angular's HTTP client for RESTful API communication with .NET backend.

Research Projects — Rochester, MI
Data Scientist — *Aug 2023 - Aug 2024*

- **Comparative Analysis**: Conducted a comprehensive evaluation of code generation capabilities of ChatGPT-4 and Github Copilot compared to human developers. Analyzed metrics including code quality, performance, and maintainability. Implemented automated testing frameworks to validate generated code against requirements.
- **Traffic Accident Prediction**: Evaluated the application of diffusion models for traffic accident prediction. Developed data pipelines for processing spatial and temporal data, and created interactive visualizations using React and D3.js to display prediction results.

PROJECTS

- **Gas Station Management System**: Built a full-stack application using React.js, Node.js, and MongoDB to manage fuel sales, employee salaries, and inventory. Implemented RESTful API design principles with Express.js, created reusable React components with hooks, and utilized JWT for authentication. Deployed with CI/CD pipeline using GitHub Actions and Docker containers.
- **AI-Powered Gym and Nutrition Chatbot**: Developed an NLP-based chatbot with a React front-end for personalized fitness recommendations. Implemented responsive UI with Material-UI components and custom CSS. Created GraphQL API for efficient data fetching and integrated with BERT-based NLP backend. Implemented unit tests with Jest and React Testing Library.
- **Traffic Accident Prediction Dashboard**: Created an interactive web dashboard using React and D3.js to visualize traffic accident predictions. Implemented data filtering, sorting, and visualization components. Designed RESTful API endpoints to serve prediction data from machine learning models. Utilized MySQL for storing spatial and temporal data with optimized query performance.

Programming Skills

- **Front-end**: React.js, Redux, JavaScript (ES6+), TypeScript, HTML5, CSS3, Angular, Material-UI, Tailwind CSS

- **Back-end**: Node.js, Express.js, RESTful APIs, GraphQL, PHP, Symfony

- **Database**: MySQL, MongoDB, SQL query optimization, Database design

- **Testing & Tools**: Jest, React Testing Library, Git, GitHub, Docker, CI/CD, AWS

Certifications

- **AWS Certified Cloud Practitioner**:

- **React Development - Udemy**: Completed advanced course on React hooks, context API, and performance optimization