

# SCHOLASTICA NWANZE

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Location: United Kingdom | Portfolio: [SCHOLASTICA's Webpage](#)

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## **PROFESSIONAL SUMMARY**

MSc Applied Artificial Intelligence graduate with production experience building and deploying scalable web applications and AI-powered systems. Demonstrated expertise in Python, JavaScript, RESTful API development, and cloud deployment. Proven ability to architect full-stack solutions from concept through production, with strong foundation in software engineering principles, algorithm design, and collaborative development.

## **TECHNICAL SKILLS**

**Programming:** Python, JavaScript, SQL, HTML, CSS, R

**Backend & APIs:** FastAPI, RESTful APIs, WebSocket Protocol, JWT Authentication, Bcrypt, PostgreSQL

**Frontend:** React.js, HTML5, CSS3, Responsive Design, JavaScript

**AI/ML:** Scikit-learn, Pandas, NumPy, Natural Language Processing, API Integration (OpenAI, Deepgram)

**Cloud & DevOps:** Cloud Deployment (Render, Vercel), Git, GitHub, Version Control

**Development Tools:** VS Code, Jupyter Notebook, Chrome DevTools, Postman

## **EDUCATION**

**MSc Applied Artificial Intelligence | Aston University | Sep 2024 – Jan 2026**

*Dissertation:* Development of a Multi-Modal Conversational AI System with Adaptive Learning Capabilities

*Relevant Coursework:* Machine Learning, Software Engineering, Data Mining, Mathematics for AI, Algorithm Design

**BSc Biomedical Science | University of Hertfordshire | Sep 2017 – Jun 2021**

*Key Skills:* Data analysis, research methodology, statistical analysis, data interpretation, scientific problem-solving.

## **PROJECTS**

### ***SCAI - Multi-Modal Conversational AI Assistant***

**Technologies:** Python, FastAPI, React.js, WebSocket, PostgreSQL, JWT Authentication, REST APIs, Cloud Deployment

Production-grade full-stack application with real-time communication and secure user authentication.

- Architected and deployed cloud-scale full-stack application on Render, designed to serve multiple concurrent users with strict data isolation, security, and live-site monitoring
- Engineered custom JWT-based authentication system with bcrypt password hashing and refresh token management, implementing OWASP security standards
- Built real-time bidirectional communication system using WebSocket protocol for streaming data and instant messaging with sub-second latency
- Developed RESTful API architecture with comprehensive endpoints for user management, data persistence, and third-party service integration
- Designed and implemented PostgreSQL database schema with optimised queries, proper indexing, and normalised table structures
- Integrated multiple third-party APIs (OpenAI, Deepgram) with sophisticated error handling, rate limiting, and fallback strategies
- Built comprehensive logging and monitoring systems for distributed application in production, enabling rapid debugging and quality assurance
- Owned end-to-end development of multiple system features independently, iterating rapidly based on testing and user feedback
- Demonstrated rapid learning and adaptation, independently acquiring expertise in WebSocket protocol, cloud deployment, and vector databases within tight project timelines

### ***WEATHER DATA ETL PIPELINE & DASHBOARD***

**Technologies:** python, FastAPI, PostgreSQL, REST APIs, Automated Scheduling, Data Processing, Chart.js

Automated data pipeline with web-based visualisation dashboard.

- Designed and implemented automated ETL pipeline with scheduled data collection, transformation, and loading processes
- Built RESTful API using FastAPI providing endpoints for data access, filtering, and aggregated statistics
- Developed PostgreSQL database schema optimised for time-series data with proper indexing for query performance
- Created interactive web dashboard with real-time data visualisation and responsive design

- Implemented comprehensive error handling, logging, and data validation throughout the pipeline
- Engineered modular architecture enabling easy maintenance and feature expansion

### ***TASK MANAGEMENT REST API***

**Technologies:** Python, FastAPI, PostgreSQL, JWT Authentication, REST APIs, CRUD operations

Secure task management system with complete authentication and authorisation.

- Architected production-ready RESTful API with full CRUD functionality and comprehensive documentation
- Implemented secure JWT-based authentication with access and refresh tokens, session management, and password hashing
- Designed normalised PostgreSQL schema with foreign key relationships and indexes for optimal performance
- Built user isolation and authorisation system ensuring data security and privacy
- Developed filtering endpoints and analytics features providing task statistics and insights
- Created automated API documentation using FastAPI's Swagger/OpenAPI integration

### ***WORDMATRIX – WORD PUZZLE GAME***

**Technologies:** Python, FastAPI, JavaScript, Algorithm Design, REST API, Responsive Design

Interactive web-based word puzzle game with intelligent difficulty scaling.

- Developed full-stack web application with responsive frontend and scalable backend architecture
- Designed intelligent word scrambling algorithms processing 200+ dictionary entries with difficulty classification
- Built RESTful API layer enabling seamless client-server communication and real-time gameplay
- Engineered data-driven game logic with score tracking, performance metrics, and modular architecture
- Implemented input validation, error handling, and user feedback systems

### ***PERSONAL PORTFOLIO WEBSITE***

**Technologies:** HTML, CSS, JavaScript, Responsive Design, Git, Vercel

Professional portfolio showcasing technical projects and development expertise.

- Designed and deployed responsive website with modern UI/UX principles and cross-device compatibility
- Implemented automated deployment pipeline with Git version control and continuous delivery to production
- Optimised performance and user experience with efficient code and responsive design patterns

## **PROFESSIONAL EXPERIENCE**

### **Healthcare Assistant | PrimeLife | 2024 – Present**

- Developed exceptional problem-solving and analytical skills in fast-paced, high-pressure environment
- Demonstrated reliability managing multiple competing priorities with meticulous attention to detail
- Enhanced communication and collaboration skills working with diverse teams in multicultural setting

### **Technology Intern | Bright Network | Jun – Jul 2023**

- Contributed to research on automation solutions and data analysis workflows for business optimisation
- Collaborated with cross-functional teams including developers, analysts, and stakeholders on technical projects
- Worked closely with cross-functional teams including non-technical stakeholders, translating complex technical findings into clear presentations
- Gained exposure to professional software development practices and agile methodologies

### **Healthcare Assistant | Agincare | 2022 – 2024**

- Developed exceptional problem-solving and analytical skills in fast-paced, high-pressure environments requiring precision and attention to detail.
- Demonstrated reliability managing multiple competing priorities with meticulous documentation and process adherence.
- Proven track record of adaptability across different organisational structures and workflows.

### **Team Leader | KFC Limited | 2019 – 2022**

- Led team of 6+ staff members, delegating tasks and coordinating workflows during high-volume service periods.
- Trained new team members on systems, processes, and performance standards.
- Managed inventory tracking, stock control, and ordering systems ensuring operational efficiency.

#### **Healthcare Assistant | Meadow Care Services | 2018 – 2019**

- Provided high-quality care in professional healthcare setting.
- Developed strong attention to detail and ability to follow protocols and procedures.
- Built effective communication skills working with clients, families, and medical professionals.

#### **CERTIFICATIONS**

NVIDIA Deep Learning Certification (In Progress) | 2026

#### **ADDITIONAL INFORMATION**

**Languages:** English, French