ZEYAD KHALIL

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SUMMARY

MSc Applied Artificial Intelligence student at the University of Warwick with a BSc in Computer Science and hands-on experience building machine learning, deep learning and full stack systems. Comfortable across the model lifecycle, from data preprocessing and feature engineering to training, evaluation and deployment using Python, PyTorch and scikit-learn. Currently working on an industry linked dissertation with Dogtooth Technologies on computer vision for autonomous fruit harvesting robots, alongside freelance web and AI projects. Looking for entry level roles where I can ship reliable AI software and keep growing as an engineer.

EDUCATION

University of Warwick **Coventry**

MSc Applied Artificial Intelligence **2025 - 2026**

- Relevant Focus Areas: deep learning, computer vision, applied machine learning, natural language processing, AI systems engineering, data driven decision making, responsible and trustworthy AI.
- Industry linked dissertation with Dogtooth Technologies on collision detection and hazard classification for autonomous soft fruit harvesting robots.

Oxford Brookes University **Oxford**

BSc Computer Science **2021 - 2024**

- Relevant Focus Areas: Python development, object oriented programming, machine learning, database systems, software engineering, web development, AI for autonomous agents, statistical and applied computing.

Central Beds College **Dunstable**

BTEC Extended Diploma in Computing **2018 - 2021**

- Relevant Focus Areas: web development (HTML, CSS), database management (SQL), systems analysis and design, IT project management.

PROJECTS

STRAWBERRY RIPENESS DETECTION UNDER DAY TO NIGHT DOMAIN SHIFT

Computer vision project tackling performance drop in fruit ripeness detection when lighting conditions shift between daylight and LED illuminated polytunnels. Built on the StrawDI_Db1 dataset using PyTorch, with a CycleGAN based domain adaptation pipeline to translate daytime imagery into realistic night domain samples for training. Implemented preprocessing, augmentation and a ripeness classifier evaluated before and after adaptation using accuracy, precision, recall and confusion matrices. The project links directly to my Dogtooth Technologies dissertation on vision for autonomous harvesting robots and demonstrates applied deep learning, generative modelling and robust evaluation under real world distribution shift.

PROMPTGUARD AI: ENTERPRISE LLM DATA LOSS PREVENTION

Applied AI security platform built during the WMG, Google and NatWest Secure Intelligence Frontier hackathon, where the team advanced to the grand final at Google London. Designed a system that intercepts prompts sent to public LLMs and detects sensitive data leakage in real time. Delivered a Chrome Extension (Manifest V3) for in browser interception, a FastAPI backend deployed on Google Cloud Run for detection and policy enforcement, and a React admin dashboard for analytics and rule configuration. Combined regex and pattern based matching with LLM assisted classification to reduce false positives, and instrumented the pipeline with logging and metrics for auditing.

AGENTIC AI JOB APPLICATION COPILOT

End to end automation platform that finds, ranks and helps apply to relevant graduate roles. Backend built in Python with FastAPI and SQLAlchemy 2, persisting jobs and user profiles in a relational store, with APScheduler running periodic Greenhouse scrapers and a semantic matching pipeline that ranks roles against a candidate CV using embeddings. Frontend built in Next.js 15 with TanStack Query for server state. Covered by a 28 unit test suite to lock in scraper reliability and matching logic. Demonstrates agentic workflow design, API engineering, scheduled data pipelines and shipping a full stack AI product end to end.

IBM AI RACING LEAGUE: AUTONOMOUS DRIVING AGENT

Built an autonomous racing agent in the TORCS simulator using Python and reinforcement learning. The agent consumed telemetry such as speed, track position and orientation to produce real time steering, throttle and braking decisions. Designed reward shaping and training loops to improve lap completion and stability, iterating on hyperparameters and evaluation runs to reduce off track events. Used IBM Granite to support algorithm design and debugging, and Git for version control and reproducible experiments.

WORK EXPERIENCE

TRAVELSTONE **Luton**

IT SPECIALIST **May 2023 - November 2023**

Provided second line technical support across software and hardware issues for staff and customer facing systems. Diagnosed application crashes and performance problems using Windows Event Viewer and log analysis, isolating root causes and applying fixes through patches, configuration changes or rollbacks. Followed a structured workflow of reproducing issues, hypothesising causes, testing fixes and verifying resolution, and documented recurring problems to reduce repeat tickets. Improved system reliability and user satisfaction through clear communication with non technical staff.

TRAINING 4U SERVICES CENTRE **Luton**

RECEPTIONIST **April 2018 - August 2018**

Handled scheduling, visitor logs and a multi line phone system in a busy front of house role. Used Microsoft Excel, Word and Outlook for data entry, appointment tracking and internal communication, with attention to accuracy and confidentiality. Built solid habits around organisation, written communication and customer service that carry into technical work today.

TECHNICAL AND PROFESSIONAL SKILLS

Programming: Python, Java, C++, C#, R, SQL, JavaScript, HTML, CSS

Machine Learning and AI: PyTorch, scikit-learn, NumPy, pandas, SciPy, supervised and unsupervised learning, deep learning, computer vision, reinforcement learning, NLP, LLMs, RAG, AI agents, feature engineering, model training and evaluation, hyperparameter tuning, data visualisation

Software and Web Development: FastAPI, Flask, Next.js, React, REST APIs, PHP, object oriented design, automated testing, agile and scrum

Data and Databases: SQL, MySQL, schema design and normalisation, data preprocessing, ETL and data pipelines, query optimisation

Cloud and Tooling: AWS, Google Cloud Platform (Cloud Run), Git and GitHub, version control, CI workflows, Linux command line

Languages: English, Italian, Arabic, French

Professional: problem solving, analytical thinking, written and verbal communication, teamwork, adaptability, project management