

Aditya Roy

+61423693571 | adityaroy083@gmail.com | codenamecypher.github.io | github.com/codenamecypher | linkedin.com/in/adityaroy1

About Me

I am a recent Master of Information Technology (Software Development) graduate from Swinburne University of Technology, Melbourne, with a strong academic foundation and a Bachelor's degree in Computer Science and Engineering from BRAC University. Throughout my academic journey, I developed expertise in software development, machine learning, web technologies, and database management, complemented by multiple hands-on projects showcased on my GitHub and portfolio website.

Alongside my postgraduate journey, I have gained practical exposure by working part-time at Ampol Foodary Ltd, developing technical expertise in POS systems and inventory control, alongside strong teamwork, problem-solving, and customer service skills.

Passionate about leveraging technology to solve real-world problems, I am now seeking opportunities in software development, data-driven solutions, and innovative IT projects where I can apply my technical knowledge, analytical mindset, and commitment to continuous learning.

Work Experiences

Ampol Foodary Ltd.

Melbourne, Australia

Retail Team Member

September 2023 - Current

- Operated point-of-sale (POS) systems, accurately processing transactions and managing daily cash handling.
- Monitored stock levels, replenished shelves, and maintained inventory accuracy to ensure smooth store operations.
- Collaborated with team members to meet daily operational goals and resolve issues efficiently.
- Technical Skills:** POS System Operation, Stock Replenishment, Inventory Control, Health and Safety Compliance, Cash Handling, Product Knowledge, Fuel Console Operation.
- Soft Skills:** Customer Service, Communication, Teamwork, Problem Solving, Time Management, Adaptability, Attention to Detail, Reliability, Punctuality.

Brac University

Dhaka, Bangladesh

Teaching Assistant, Department of Computer Science and Engineering

Fall 2021 - Summer 2022

- Assisted the lecturer in preparing and delivering lectures & assignments.
- Provided tutoring and academic support to students, helping them understand complex concepts & improve their academic performance.
- Graded assignments and exams, offering constructive feedback to help students improve their academic performance.
- Courses:** Programming Language I, Programming Language II, Data Structures, Algorithms
- Technical Skills:** Python, Data Structures, OOP, Algorithms, Google Colab, C++, Git.
- Soft Skills:** Time Management, Communication, Presentation skills, Critical Thinking.

Educational Qualifications

Swinburne University of Technology

Melbourne, Australia

Master of Information Technology (Software Development)

July 2023 - July 2025

- Graduated with a CGPA of 3.44 out of 4, specialising in software development, cloud computing, and machine learning.
- Key Coursework:** Web Applications, Data Management & Big Data, Technology Projects, Software Quality and Testing, User-Centred Design, Object-Oriented Programming, Cloud Computing Architecture, Internet Security, and Machine Learning.

Brac University

Dhaka, Bangladesh

Bachelor of Science in Computer Science and Engineering

Jan 2019 - Sept 2022

- Graduated with a CGPA of 3.93 out of 4
- Key Coursework:** Data Structures & Algorithms, Digital Logic Design, Discrete Mathematics, Database Systems, Computer Architecture, Compiler Design, Robotics, Computer Networks, Operating Systems, VLSI Design, Artificial Intelligence, NLP, Software engineering, and Deep Learning.

Technical Skills

Programming Languages

Python, Java, C++, C, PHP, JavaScript, Dart.

Frameworks

Django, Flutter, Laravel, Flask

Databases

MySQL, SQLite, PostgreSQL, SQLAlchemy, Firebase, MongoDB

Front-end Technologies

HTML, CSS, JavaScript, Bootstrap CSS, Tailwind CSS, Jinja2, Blade.

AI Tools & Libraries

Scikit-learn, PyTorch, Pandas, NumPy, Matplotlib, Seaborn, LLMs, Transformers, OpenCV

Cloud

Amazon Web Services & Oracle Cloud Infrastructure.

Operating Systems

Windows Vista/XP/7/10/11, Linux.

Tools & Libraries

Figma, Git, BeautifulSoup, Tkinter, Pygame, Latex, Jupyter, Swing, AWT, PuTTY, WinSCP.

Key Project Works

MatApp – Material Selection Web Application

Melbourne, Australia

Swinburne University of Technology

Semester 1, 2025

- Allows users to filter and search materials based on properties using an intuitive interface.
- Implemented backend APIs and MongoDB for structured material data handling.
- **Technical Skills:** Flask, React (Vite), MongoDB, Python, JavaScript, Tailwind CSS.
- **Soft Skills:** Full-stack development, database design, collaboration, problem-solving.

Swinburne AI Chatbot – AI-Powered Retrieval-Augmented Generation System

Melbourne, Australia

Swinburne University of Technology

Semester 1, 2024

- Worked on a retrieval-augmented generation (RAG) system to deliver contextually accurate responses from custom data sources.
- Integrated embeddings and document loaders & optimized prompt chaining for improved query understanding & response generation.
- **Technical Skills:** Python, LangChain, LLaMA3, FAISS, Hugging Face, OpenAI API.
- **Soft Skills:** AI research, Prompt Engineering, Experimentation, Analytical Thinking.

ValMob - Esports Scheduling App

Dhaka, Bangladesh

Personal Project

May 2023

- Developed ValMob, a Flutter Android app delivering real-time Valorant esports news and updates via Firebase.
- **Technical Skills:** Flutter, Dart, Firebase, Cloud Firestore.
- **Soft Skills:** Mobile UI/UX design, agile development.

Hybrid Malware Detection System

Melbourne, Australia

Swinburne University of Technology

Semester 2, 2024

- Developed a web-based hybrid machine learning system for malware detection and classification.
- Supports separate interfaces for admin and normal users.
- **Technical Skills:** Flask, SQLite, SQLAlchemy, Jinja2, HTML, CSS, Bootstrap, scikit-learn, Python.
- **Soft Skills:** Requirement analysis, system design, collaborative development.
- **Find more project works:** GitHub

Research Works

Federated GAN-Based Biomedical Image Augmentation and Classification for Alzheimer's Disease

Dhaka, Bangladesh

BRAC University

2021 - 2022

- Researched and developed a federated learning framework leveraging Generative Adversarial Networks (GANs).
- Augment MRI brain images for improved Alzheimer's disease classification.
- Addressed medical data scarcity and privacy constraints.
- **Technical Skills:** Python, TensorFlow, PyTorch, GANs, Federated Learning, Medical Image Processing.
- **Soft Skills:** Research methodology, academic writing, problem-solving, collaboration, presentation skills.

UCF101 Action Classification Comparison and Hyperparameter Tuning using Deep Learning

Melbourne, Australia

Swinburne University of Technology

2025

- Implemented deep learning-based action classification on the UCF-101 dataset.
- Conducted extensive hyperparameter tuning for r3d_18 and mc3_18 models.
- **Technical Skills:** Python, PyTorch, Jupyter Notebook, OpenCV, Deep Learning.
- **Soft Skills:** Experimental design, hyperparameter optimization, performance analysis.

Semantic Analysis using Multiple Feature Extraction Techniques

Melbourne, Australia

Swinburne University of Technology

2024

- Performed sentiment analysis on Google Play Store reviews using CountVectorizer and TF-IDF feature extraction methods.
- Compared their impact on classification performances.
- Trained and evaluated multiple machine learning models, including Naive Bayes, Random Forest, and Decision Tree.
- Visualised performance metrics for comparative analysis.
- **Technical Skills:** Python, scikit-learn, pandas, matplotlib, seaborn, CountVectorizer, TF-IDF.
- **Soft Skills:** Data analysis, model evaluation, critical thinking, result interpretation.

Co-curricular Activity

Robotics Club of Brac University

Dhaka, Bangladesh

Senior Executive, Department of Strategic Planning

Aug 2020 - Sept 2022

- Volunteer at Traction 2020: TechBizz
- Volunteer at JoyJatra'50 Techfest
- Organized and supervised Strategic Planning Valorant Series, a competitive intra-department gaming tournament.
- **Soft Skills:** Leadership, Time Management, Communication, Critical Thinking.