

# ALAM RINCON

## Graduate Software Engineer

Email  
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Portfolio

### About Me

Computer science graduate with experience in full-stack software development and machine learning projects.

**Career Objective:** Seeking an entry-level software developer role. Determined to bring my ability to analyse, develop and improve data and applications, enhancing user experience across applications, and contribute to machine learning projects to discover new algorithms and methodologies.

**Hobbies:** Researching untapped fields and technologies in machine learning for innovative ideas and promising projects.

### Education

**Middlesex University - BSc (Hons) Computer Science** - First Class with Honours (*June 2025*)

### Technical Skills

**Programming Languages:** Python, JAVA, JavaScript, C++, C, C#, Shell.

**Web Development and Frameworks:**

**Front-End:** HTML, CSS, Tailwind CSS, Bootstrap, Vue.js, React, Vite.

**Back-End:** Node.js, Express.js, REST API, Routing.

**Artificial Intelligence and Tools:**

**ML Models:** Feedforward Neural Network (FNN), K Nearest Neighbour (KNN), Support Vector Machines (SVM), Natural Language Processing (NLP), K-Means Clustering (K-Means).

**DL Models:** Faster Region Convolutional Neural Network (Faster R-CNN), Mask Region Convolutional Neural Network (Mask R-CNN), Residual Network (ResNet), Feature Pyramid Network (FPN).

**Tools:** AI Assistants (ChatGPT, Gemini, Copilot, DeepSeek).

**Operating Systems:** Windows, Linux (Ubuntu, Kali).

### Experience

**Student Learning Assistant** - (September 2024 – April 2025)

**Soft skills gained:** Communication, Facilitation, Leadership, Teamwork, Mentoring, and People Skills.

### Personal Projects

**Virological Image Classification and Object Detection Model (Faster R-CNN, ResNet-50, FPN)**

- Designed a multi-class virus detection pipeline using a fine-tuned Faster R-CNN with ResNet-50 and FPN on a custom COCO formatted dataset.
- Pre-processed and augmented TEM image data with Python, leveraging PyTorch and Torchvision for model training and optimisation using GPU acceleration.
- Used OpenCV, NumPy, Pandas, Matplotlib, and Seaborn for data analysis and visualisation, improved efficiency via multithreading during preprocessing and training.

**Suspicious Fraudulent Bank Transactions Identifier Model (K-Means Clustering)**

- Built an unsupervised fraud detection model using K-Means Clustering on a bank transaction dataset and performed EDA with heatmaps, box plots, and histograms to identify key patterns, trends and outliers in financial transaction data.
- Pre-processed data (missing values, encoding, scaling with RobustScaler) and applied PCA for dimensionality reduction and visualisation.

### **IMDB Movie Reviews Dataset Sentiment Categorisation Model (NLP, RNN)**

- Pre-processed 50K movie reviews and trained an RNN with pre-trained Word2Vec embedding for sentiment classification, and included tokenization, stop word removal, and lemmatisation, to address challenges related to data noise.
- Evaluated the performance using learning curves, metrics, and a confusion matrix analysis, to identify areas for model improvement.

### **UCI Handwritten Digits Dataset Classification Model (KNN, FNN, SVM)**

- Built an OOP Java-based framework to compare multiple ML models for handwritten digit classification, using K-Fold Cross-Validation and hyperparameter tuning to reduce overfitting and minimise validation error.
- Assessed model performance via confusion matrices and key classification metrics to gain detail insights into model strengths, weaknesses and misclassification patterns.

### **Personal Resume System - Front-End Repository – Back-End Repository**

- Built and deployed a full-stack resume website using React, Vite, Tailwind CSS, Bootstrap (frontend) and Node.js, Express.js, MongoDB Atlas (backend), hosted on Render.com.
- Created a REST API for dynamic data updates and implemented responsive UI with client-side routing and dynamic navigation.

### **Sports Activities Social Networking System**

- Developed a social platform for organising and joining sports events using Node.js, Express.js, MongoDB, REST API, HTML, CSS, JavaScript, and Bootstrap.

### **School E-Commerce System**

- Built an e-commerce platform for purchasing lectures with a Vue.js-based frontend and a Node.js/Express.js backend deployed on Render.com using MongoDB Atlas.

### **Transport Timetable with Ticketing System**

- Developed using C++, an OOP user-oriented platform for route searching, ticket purchasing, timetable viewing and ticket tracking, with the intention of enhancing bus travel experience.
- Structured through Azure DevOps for team management, incorporated proposals, diagrams, and a TDD approach to test cases and switching to TAA for test cases of new features implemented, achieving an impressive SDLC framework.