Lecturer name	Project Code	Project Area	Project Title	Problem definition	Project Aim and Objectives	Project Output	Software/Hardware Requirements	Student_Id	Student_Name
Selvanaden Sathan	SS1	General Software Development	An Integrated E-Health System for local hospitals	Patient Record Management is a major problem locally. These record which are very important are often not update, misplaced or even lost causing detriment to the patient and this can be very frustrating and inefficient.	The aim is to develop an e-health system. The system should allow efficient record storage, retrieval and update. The system should also allow management of appointments and sending reminders and notifications. The system should be easy to use and also be accessible on a mobile device.	A mobile application and a client-server application	TBD	2315393	Harshini Kasseeah
Selvanaden Sathan	SS2	Software development	Project Management System	Final year students need to submit a dissertation in their final year and they need to proper guidance and supervision to be able to do so. Students need to submit deliverable and these need to be reviewed by their supervisors and then feedback will be given. The students are expected to apply these feedback before submitting the work again for approval. The systems should track the progress of the students and verify that they are progressing and applying the feedback given by their supervisors. This is a time-consuming process and needs to be digitally-enhanced.	A software to aid in the management of final year projects. The system should allow scheduling of meetings, sending reminders, allow students to submit deliverables and allow the students to resubmit the amended work. The system should use AI to determine if the work submitted has taken into account the feedback given and track the changes. The software should also generate a progress log for the students and supervisors.	A web-based System	TBD	2311146	Prashant Jatoo
Selvanaden Sathan	SS3	Mobile Application	Digital Waiter	Small to medium restaurants are facing problems to recruit waiters nowadays. Many are having to hire foreigners but this is proving difficult.	The aim is to develop a Digital Waiter App which will allow people to order dishes, customise them and deliver them to the kitchen. The System should also allow the cook to prioritise the dishes to minimise waiting time and become more efficient. The system should also estimate the waiting time before a dish is served.	A mobile Application	TBD	2315576	Andy Yeung Yee Wing
Selvanaden Sathan	SS4	Computer Security	A Password-Hardening tool using AI	Passwords are still widely used as a an authentication mechanism, however passwords can be stolen through social engineering or malware. Password hardening aims at increasing the level of security provided by password authentication.	A software which allows user-authentication using password hardening. The system should allow capture, storage, template generation and uses AI to increase accuracy of the system and makes the system less hardware dependent.	A software which allows more secure password-based authentication	TBD	2312822	Deepika Johaheer
Selvanaden Sathan	SS5		A Child-Friendly Animation Software for Educational Content Creation					2314249	Marianne Loius Yohan Francis
Selvanaden Sathan	SS7	Mobile Application	Induction E-Kit	Very often students miss the induction session and are at a loss when they join UoM. The project aims at developing a student E-Kit to help students joining UoM for the first time	The aim is to develop a Mobile Application which can help answer student queries when they join UoM. It should feature different element including an AI assistant to answer to student queries.	A Mobile App	TBD	2312790	Ghanishth Parsad Sewtohul
Selvanaden Sathan	SS8	IoT	E Learning tool to teach students Chemistry	Many students face difficulty in learning Basis chemistry in college and often times the labs are not well equipped. This has for effect that the students are not interested in learning the subject.	The aim of the project is to develop a tool to teach the students about basic chemistry and allow them to learn about the different apparatus and carry out basic experiments.	An E-Learning tools which simulates a virtual chemistry lab.	TBC	2313597	Mohammad Grufran Jaulim
Selvanaden Sathan	SS9		AI enhanced network scanner with automatic vulnerability assessment and report generation					2311003	Kevin Yerkiah
Razvi DOOMUN	RD1	Computer Vision, AI	Real-Time Traffic Sign Recognition System for Mauritius Using YOLOv8	Develop a deep learning model to detect and classify Mauritian traffic signs using real-time video input.	Objectives: Collect and annotate a dataset of local signs. Train and test a YOLOv8 model. Deploy on a Raspberry Pi or mobile device for real-time use.	As per functional requirements to be finalised.	Smartphone/Mobile device with very good camera resolution	2311249	Muhammad Umair Parthasee
Razvi DOOMUN	RD2	Computer Vision Aplications & AI	Face Recognition with Emotion-Liveness Detection for Secure Identity Verification	Detect human emotions (happy, sad, angry, etc.) using facial features in images or video. Build a system to recognize faces and detect spoofing attacks (e.g., photos/videos) using texture and motion cues.	Objectives: Implement face recognition (e.g., FaceNet or OpenFace). Integrate liveness detection using motion or CNN-based classification. Train on datasets like FER2013. Implement CNN architectures (e.g., MobileNet). Test real-time video classification. Evaluate accuracy and robustness.	As per functional requirements to be finalised: A software app performing Face-Emotion-liveliness Recognition from Facial Expressions.	To be discussed.	2315529	Mantasha Jehan Foondun

					Objectives				
Razvi Doomun	RD3	Computer Vision Application and AI	AI-Based Waste Classification System Using Image Recognition	Classify waste into categories (e.g., plastic, metal, organic etc) for smart bin systems.	Objectives: Train a CNN classifier on labeled waste images. Deploy with a camera-equipped prototype bin. Promote environmental awareness on campus.	A prototype system/demo. To be discussed.	Smartphone camera with good resolution/image quality	2315120	Ruwaydah Bibi Sameeha Mungroo
Razvi Doomun	RD4	Computer Vision Applications and AI	Smart Beach Monitoring System Using Image Recognition	Develop a system to count and classify crowd levels and litter on public beaches like Flic-en-Flac or Grand Baie.	Objectives: Use aerial or CCTV images for crowd density estimation. Detect waste using image segmentation. Provide data for environmental authorities and tourism boards.	To be discussed as per functional requirements.	Camera, To be discussed, as per project requirement.	2313506	Mohammad Sufyaan Dustmahomed
Razvi DOOMUN	RD6	Computer Vision Applications and AI	License Plate Recognition for Vehicle Access Control in Mauritius	Build a system to detect and read Mauritian license plates for automatic access control.	Implement an Automatic Number Plate Recognition system tailored to local vehicle plates and formats. Objectives: Use image segmentation for plate localization. Detect and segment plates using real-time video. Apply OCR techniques. Recognize alphanumeric characters using OCR. Use stereo vision for distance estimation. Test system under different conditions (e.g., rain, night).	Deploy prototype and demonstrate with GUI for parking/security/vehicle access control systems.	As per requirements of project.	2311538	Golapkhan Muhammad Abu Sufyan
Razvi Doomun	RD7	Computer Vision, AI	Smart Vegetable Freshness Tracking System	The perishable nature of vegetables leads to significant losses across the supply chain â€" from farms to supermarkets and ultimately to consumers. Traditional methods for assessing freshness rely on visual inspection, which are often subjective, time-consuming. With increasing demand for food safety, quality assurance, and waste reduction, there is a critical need for an automated, intelligent system that can accurately track the freshness of produce.	To design and develop a smart system that leverages deep learning techniques to accurately detect and track the freshness of vegetables in real time using image analysis. Objectives: (1) To collect and prepare a dataset of various vegetables at different stages of freshness.(2) To apply deep learning techniques, particularly Convolutional Neural Networks (CNNs), for training models to classify produce based on freshness levels. (3) To develop a user-friendly interface (web or mobile application) that allows users (e.g. retailers or consumers) to capture or upload images of produce for freshness evaluation. (4)To evaluate the accuracy, reliability, and real-world usability of the system across different types of produce and environmental conditions (lighting, angles, etc.). (5) To propose an integration mechanism for the freshness tracking system within retail inventory or smart refrigerator systems for automated alerts and inventory optimization.	(1) A deep learning-based classification model capable of distinguishing different freshness levels of vegetables with high accuracy. (2) A prototype application (desktop/mobile/web) that enables users to check the freshness by uploading or capturing an image . (3) A dataset of labeled images of vegetables categorized by freshness stage (e.g., fresh, moderately fresh, spoiled). (4) A project report detailing methodology, model performance, system architecture, and recommendations for deployment and scalability.	To be discussed.	2311203	Josh Wylan Vythilingum

Supervisor	Code	Area	Project Title	Background	Aim/Objectives	Deliverables	Notes	Student ID	Student Name
Razvi Doomun	RD8	Computer Vision, AI, Image Processing, Machine Learning	Fruit Freshness Detection using Deep Learning	The perishable nature of fruits leads to significant losses across the supply chain â€" from farms to supermarkets and ultimately to consumers. Traditional methods for assessing freshness rely on visual inspection, which are often subjective, time-consuming. With increasing demand for food safety, quality assurance, and waste reduction, there is a critical need for an automated, intelligent system that can accurately track the freshness of produce.	To design and develop a smart system that leverages deep learning techniques to accurately detect and track the freshness of fruits in real time using image analysis. Objectives: (1) To collect and prepare a dataset of various fruits at different stages of freshness.(2) To apply deep learning techniques, particularly Convolutional Neural Networks (CNNs), for training models to classify produce based on freshness levels. (3) To develop a user-friendly interface (web or mobile application) that allows users (e.g. retailers or consumers) to capture or upload images of produce for freshness evaluation. (4) To evaluate the accuracy, reliability, and real-world usability of the system across different types of produce and environmental conditions (lighting, angles, etc.). (5) To propose an integration mechanism for the freshness tracking system within retail inventory or smart refrigerator systems for automated alerts and inventory optimization.	(1) A deep learning-based classification model capable of distinguishing different freshness levels of fruits with high accuracy. (2) A prototype application (desktop/mobile/web) that enables users to check the freshness by uploading or capturing an image . (3) A dataset of labeled images of fruits categorized by freshness stage (e.g., fresh, moderately fresh, spoiled). (4) A project report detailing methodology, model performance, system architecture, and recommendations for deployment and scalability.	To be discussed and as per project requirements.	2311285	Muhammud Zahiir Peerbux
Razvi Doomun	RD9	Computer Vision, Image processing	Real-Time Handwritten Text Recognition System	This project proposes an AI-based solution that recognizes handwritten text in real-time, making digitization faster and more efficient. This project addresses a significant challenge in AI and OCR: reliable handwritten text recognition in real-time. It has practical applications in form processing, education technology, and archival digitization. The project will also enhance the studentâ€™s expertise in machine learning, image processing, and software integrationâ€"skills in high demand.	To design and implement a real-time handwritten text recognition system using OCR and advanced deep learning architectures.	A working software system capable of recognizing handwritten text in real-time with at least above 90% character accuracy.	To be discussed and finalised as per project requirements.	2312936	Charles Glory Eloï Edouard Old
Sudha Cheerkoot-Jalim	SC1	Web Scraping, Text Mining, Machine Learning	Mining Health Information from Online Forums	People tend to look for information related to specific health conditions that they are suffering from, from the Internet â€" health-related websites and health forums. However, they are often overwhelmed by the information overload available online.	The aim of the project is to develop a system which retrieves relevant and personalised health information from specified sources, related to the patientâ€™s health conditions. Since most health-related concepts may be represented by various terms (synonyms), the Unified Medical Language System will be required to ensure completeness of search results.	A web application to retrieve relevant and personalised health information from online health forums	These will be finalised after a technological analysis at the start of the project.	2310747	Kamini Lovena Carpen
Sudha Cheerkoot-Jalim	SC2	Mobile Application Development, Machine Learning	Mental Health App for University Students	University students face a lot of challenges related to their studies and personal life. For some students, managing their daily struggles become difficult. The number of students suffering from mental health issues keep on increasing.	The aim of the project is to develop a mental health mobile application specifically for university students. The mobile application will support students in monitoring and improving their mental health through features like mood tracking, cognitive behavioral therapy (CBT) exercises, journaling, and emotional support via a chatbot. The application will also cater for crisis detection and alert family member/counselor in case of mental distress.	A mobile application to track mental health for university students	These will be finalised after a technological analysis at the start of the project.	2311521	Awotar Harshita
Sudha Cheerkoot-Jalim	SC3		A Web Application for Dynamic Supermarket Price Comparison Using AI					2314248	Hania Bibi Maryam Imamally

Supervisor	Code	Keywords	Project Title	Background	Description	Type	Prerequisites	Student ID	Student Name
Sudha Cheerkoot-Jalim	SC4	Web and Mobile Application Development, Sentiment Analysis, Machine Learning	Industrial Training Portal for University Students	Industrial Training is a compulsory component for students enrolled in a number of programmes at UoM. Industrial Training Coordinators find it very challenging to manage students enrolled on Industrial Training, given the high number of students looking for internships.	The aim of the project is to develop a tool for the management of tasks associated with Industrial Training. Students and potential employers will be able to register to the system. Students will indicate their preferences and will upload their CVs and motivation letters. Student profile can be linked to their LinkedIn profile using LinkedIn API. Employers will upload internship adverts. A recommendation system will recommend internships to students based on their preferences. Application links will be provided to students. The system will also allow Industrial Training Coordinators to maintain all relevant documents. Academic Training Supervisors (ATS) will be able to follow the progress of students and will be able to contact the mentors directly. Notifications will be sent to ATS if negative comments are being provided by the mentor for students.	A tool to help manage Industrial Training at the university.	These will be finalised after a technological analysis at the start of the project	2313183	Vedrajsing Jankee

Sudha Cheerkoot-Jalim	SC5	Mobile Application Development, Algorithms, Machine Learning	Die-Cast Toy Cars Collection App	Collecting die-cast toy cars, like HotWheels, is a passion for many people, irrespective of their age. Some people may have hundreds or even thousands of toy cars in their collection and therefore find it difficult to manage it.	The aim of the project is to develop a mobile application which will be useful to die-cast toy cars collectors to manage their collection of toy cars. Some features which may be implemented include:
					    â€¢ Viewing and managing existing collection
					    â€¢ Viewing new models on the market
					    â€¢ Adding models to a wish list and receiving notifications when available from specific vendors or when available at promotional price
					    â€¢ Sharing collection and exchanging with friends (Add reviews)
					    â€¢ Recommending models based on likes and existing collection
					    â€¢ Classifying models based on images
						A mobile application for managing collection of die-cast toy cars	These will be finalised after a technological analysis at the start of the project.	2310367	Nauzeer farhaan muhammad azhar

Bikash Sonah	BS1	Web, User Interface, NLP	Web Scraping for News Aggregation	With so many different news channels popping up, it is becoming increasingly difficult to keep track of all kinds of news that highlight relevant happenings worldwide. We all have our favorite news channels, but no one channel has it all.	In this project, the student is expected to build a customized one-stop solution for relevant news from all around the country and the world . The student will pick websites and use algorithms to scrape data from them to gather news. Furthermore, the student would be required to use a text summariser and NLP-based techniques to enable submission of relevant news tailored to individual choices/preferences.	S/W	None	2314643	Muhammad Hassan Ali Nohur
Bikash Sonah	BS2	Machine Learning	Using CNN and Deep Transfer Learning for Image Colorization	Old images/pictures from older generations are either pale or black and white.	With advancements in the artificial intelligence domain, it is possible to colourise those old black and white images using advanced deep learning methodologies. In this project, you will use the neural network model to convert grayscale images into coloured images. The project consists of building a CNN model, having two sets of images one colored, one grayscale and training the model with the two sets - without missing out the evaluation of the model.	S/W	None	2310995	Meheintish Awotarowa

Bikash Sonah	BS3	AI	Translator of audio to sign language	For deaf persons, having access to a sign language is very important for their social, emotional and linguistic growth.	In this project, the student is expected to build a system that takes audio as input and translate it into sign language. The project consists of the following stages: - Use an audio-to-text converter tool to convert speech to text - Use NLP to parse the text to analyse the text grammatical structure and and to determine relationships among words - Generate sign language with a signing Avatar	S/S		Good Programming and System Engineering Skills	2310862	Rwin Kervin Valaythen
Bikash Sonah	BS4	Genetic Algorithm	Using Genetic Algorithms to Generate Timetables	The manual method of creating timetables in colleges with big student populations takes a long time and frequently results in conflicts between different classes.	To address all of these issues, it is proposed to develop an automated system using Genetic Algorithm to provide a realistic timetabling approach capable of addressing both physical and soft constraints, which are particularly important when generating timetables in institutions with a large number of students. An example of a constraint is that a batch of students cannot be in different slots and classrooms at the same time. The class-scheduling problem will be based on the following data, namely, available Professors, available Rooms, timeslots and student groups. Genetic algorithms are based on an analogy with the genetic structure and behavior of chromosomes of the population. Â The chromosomes change over time based on crossovers and mutations and the best ones are selected based on a fitness function.	S/W		Open	2311549	Bibi Asmaa Jowaheer
Bikash Sonah	BS5	Machine Learning	Skin Disease Detection System Using CNN	In health issues, people generally like to be informed about a disease before going to the doctor or may want to have a second opinion.	In this project, the student is expected to build a Skin Disease Detection System Using CNN. The system will make it possible for the common man to get a sense of the disease affecting his/her skin so they can get a head start in preparing for its betterment and also the doctor in charge can get an idea about the disease, which ultimately helps in faster and efficient diagnosis. The system will have a registration/login. After logging in, the user would need to upload the image and the system will automatically detect the class of the skin disease that seems to appear on the image. The user can also view doctors for the diagnosis. The system will show the doctors as per the class of disease detected. The doctor can also provide feedback. The student is expected to model the CNN, train it and evaluate its performance.	S/W		Open	2310933	Joel Mappa

Supervisor	Code	Area	Title	Background	Description	Type	Tools/Requirements	ID	Student
Bikash Sonah	BS6	AI	A tool to generate model answers for test and exam papers	Student may wish to have model answers of a given test or exam paper to compare with his own answers, or may generate one in an attempt to cheat.	In this project, the student should build a system that should be able to: - Use tools to scan a test paper or an exam paper in pdf, or pictures of them - Use AI tools (like DeepSeek) to generate answers to questions - use paraphrasing, text summurisation tools and others to make answers more concise or presentable - create a model answer in a pdf version for the whole test paper or exam paper The systems should handle the following types of questions: - MCQ questions - True-or-False questions - fill-in the blanks - structured questions	S/W	Open	2315267	Himanshu Singh Surroop
Bikash Sonah	BS8	Email Services	Email service that automatically schedule events, generate to-do tasks and other functions by scanning incoming emails.	An email service is being considered to facilitate the working experience of Users through automation.	In this project, the student will build his own email service that - scan the email content and use NLP - generate events and place them in a calendar - generate to-do tasks and place them in a to-do list - classify emails into several categories, like those with require reply, follow-up, submission by some due dates, etc - any other features The student is expected to use his creativity to design the email service with GUI that show email exchange/forwards in a conversational style or any GUI that make the system as user-friendly as possible.	S/W	Networks, NLP, GUI	2315759	Tatiana Yerriah
Bikash Sonah	BS9	Blockchain	Student to propose a project in the area of Blockchain	Online Voting Application using Blockchain (Tentative)	Student is expected to identify a project in line with above or similar and consult me.	S/W	None	2310911	Jaksh Bhonesa Hurkhoo
Vidasha Ramnarain-Seetohul	VS1	NLP/Data augmentation	Improving Short Answer Grading with Data Augmentation	Automated short answer grading systems are increasingly used in educational settings to assess student responses efficiently and at scale. However, the accuracy and generalizability of these systems are often limited due to the scarcity and imbalance of training data, especially for rare or creative student answers. This lack of sufficient data prevents machine learning models from learning robust patterns and leads to poor performance across varied question types and domains. There is a need to enhance the quality and diversity of training datasets without requiring extensive manual labeling, and data augmentation offers a promising solution.	To enhance the performance of automated short answer grading systems by applying and evaluating data augmentation techniques.	A functional short answer grading system trained on both original and augmented data. A set of augmented datasets generated using different NLP techniques. Comparative performance analysis of models trained with and without augmented data. A report detailing the methodology, experiments, results, and conclusions.		Python, Goolgle Colab...	2313001	Simran Ayushee Seeburrun

Supervisor	Code	Area	Title	Background	Aim	Deliverables	Requirements	ID	Student
Vidasha Ramnarain-Seetohul	VS2	NLP/Data augmentation	Improving Few-Shot Learning Performance Using Synthetic Data Generation	Few-shot learning (FSL) aims to train models to perform well on tasks with very limited labeled examples. While promising, its performance often suffers due to insufficient data diversity and poor generalization to unseen tasks or domains. Traditional supervised models require large, balanced datasets, but in many real-world scenarios (e.g., medical imaging, rare language intents, low-resource NLP tasks), acquiring such data is costly or infeasible. Synthetic data generation offers a potential solution by augmenting the training set with realistic and diverse examples. However, the challenge lies in generating high-quality synthetic data that enhances learning without introducing noise or bias.	To enhance the performance of few-shot learning models by integrating synthetic data generation techniques into the training pipeline.	A working prototype of a few-shot learning system enhanced with synthetic data generation. Comparative performance evaluation results (baseline vs augmented).	as per the requirements of the project	2314179	Aliya Bibi Hanaa Jaumeer
Vidasha Ramnarain-Seetohul	VS3	Augmented Reality	Enhancing MCQ Learning with Augmented Reality Feedback	Multiple-choice questions (MCQs) are widely used in educational assessments due to their simplicity and ease of grading. However, they often provide limited learning value because students receive only binary feedback (correct/incorrect) without any meaningful explanation. As a result, misconceptions may persist, and learning becomes passive and disengaging. To address this gap, there is a need for an interactive system that not only assesses MCQs but also delivers formative feedback in an engaging way. Augmented Reality (AR) offers a promising solution by visualizing key concepts and explanations in real-time, helping learners understand why an answer is right or wrong. Integrating AR into MCQ feedback can make learning more effective, interactive, and memorable.	To develop an augmented reality-based system that provides visual, interactive feedback for multiple-choice questions to improve student understanding and engagement.	A working AR prototype application that presents visual feedback when users answer MCQs.	Unity/Vuforia or any other relevant software	2313769	Khushi Ramkorun
Vidasha Ramnarain-Seetohul	VS4	Data augmentation/NLP	Determining the Optimal Volume of Augmented Data for NLP-Based Short Answer Grading Systems	In Natural Language Processing (NLP)-based short answer grading systems, data augmentation is commonly used to expand limited training datasets and improve model performance. However, there is often no clear guidance on how much synthetic data is enough. Excessive augmentation can lead to diminishing returns, increased training time, higher computational costs, and even degraded model accuracy due to noise or redundancy. Conversely, insufficient augmentation may not provide enough variation for effective learning. There is a need to systematically determine the optimal volume of augmented data that balances performance improvement with computational efficiency, especially in resource-constrained settings. Identifying this optimal point is crucial for building robust, scalable, and cost-effective ASAG systems.	To investigate and determine the optimal volume of augmented data required to improve the performance of NLP-based short answer grading systems without incurring unnecessary computational overhead.	A set of augmented short answer datasets with different volumes (e.g., 1x, 2x, 5x, 10x the original size). Trained models and performance comparison across each augmentation level.	open to students	2311168	Hemish Jhuboo

Vidasha Ramnarain-Seetohul	VS5	Intelligent systems	Multi-Store Grocery Price Comparison App with Intelligent Shopping List Management	Grocery shopping can be time-consuming and expensive, especially when customers need to compare prices across multiple stores manually. Most existing apps are limited to single retailers, lack dynamic pricing updates, or do not offer intelligent features such as budget-friendly recommendations, store-based filtering, or optimized shopping lists. This leads to inefficiencies and missed opportunities for savings, especially for price-sensitive consumers. There is a need for a mobile application that provides real-time price comparisons across multiple grocery stores and offers intelligent shopping list management to help users make cost-effective and convenient shopping decisions.	To develop a mobile application that enables users to compare grocery prices across multiple stores and manage their shopping list intelligently by optimizing for cost, preferences, and location.	A fully functional cross-platform mobile application. Real-time multi-store grocery price comparison feature. Intelligent shopping list with cost optimization and item suggestions. Optional user profiles with history tracking and budget preferences.	Open to Students	2313398 SAWRANUT Devesh Tarunsingh

Vidasha Ramnarain-Seetohul	VS6	Intelligent systems	Smart Meal Planner App with Dynamic Nutritional Analysis and Budget Optimization	Planning daily meals is a challenge for individuals trying to balance nutrition, cost, and dietary preferences. Most existing meal planner apps focus either on recipes or calorie tracking, without integrating grocery pricing, nutrient goals, and user-specific constraints. There is a gap in providing a system that can suggest meals tailored to the user's health goals while staying within a specific budget.	To develop a mobile application that intelligently generates daily or weekly meal plans based on user preferences, nutritional needs, and budget constraints, with integrated ingredient cost estimation using real-time grocery prices.	To design a mobile-friendly application that supports user input for dietary preferences (e.g., vegetarian, low-carb, etc.), allergies, and budget. To implement a meal recommendation engine based on:
						    Nutritional data (e.g., calories, protein, etc.)
						    Real-time grocery pricing data
						    Ingredient availability and affordability
						   To integrate APIs or data sources for:
						    Nutritional values of food items
						    Real-time price comparison from multiple stores
						   To allow users to customize and save meal plans, generate shopping lists, and track progress.
							Open to students	2314192 Aniket Gaurav Ramkissoon

Anwar Chutoo	AC1		AI-Powered Natural Language Interface for SIEM Systems via Model Context Protocol					2311705 Peeroo Poshan
Anwar Chutoo	AC2		AI Bot Detection - Neural Network					2311265 Atish Joottun
Anwar Chutoo	AC3		An Artificially Intelligent Email Analysis System for Extracting Sentiment, Service Requests and Attachment					2311661 Joshua Sooben
Anwar Chutoo	AC4	Machine Learning, Code Generation, Security	Identifying and mitigating risks in code generators	Codes can be generated for different programming languages today using tools like Copilot, ChatGPT and Gemini Code Assist. However, these code generators may introduce vulnerabilities within our systems. The project aims at using AI to identify the code vulnerabilities	The aim of the project is to identify Code generators for different programming languages (https://arxiv.org/html/2312.15223v2) and identify issues with the codes generated. Student should be able to understand the different software security risks (from CWE, OWASP) and see how code generated code might introduce such risks into their code base. They should also create an AI based system that can identify and fix these issues.	An add-on or API that can flag insecure code	Up to student	2313666 Luvesh Ramhit

Supervisor	Code	Topic	Title	Description	Requirements	Deliverables	Tools	ID	Student
Anwar Chutoo	AC5	NLP, Large Language Models	Sega Lysics Composer	This project aims at using large language models to create different segas lyrics, using a corpus of current sega's. Student should do an acceptance test of the relevance of any sega composed	Project should use LLMs to generate different segas. The generated segas lyrics should be validated by a sample audience to show their relevance. This project should ideally work with AC6, although this is not a requirement	Different segas that are validated by a sample audience.	Up to student	2312948	Muhammad Munazir Ramjhun
Anwar Chutoo	AC6	Machine Learning, AI	Sega music composer	The project aims at creating sega music, which has a different tempo from other types of music using machine learning. Student should use AI tools to extract features from current sega music, and then, compose new sega music	Create a sega music composer, by first extracting relevant features from existing segas, and then, use AI to generate new music. Project should ideally be able to work with AC5, though this is not a requirement	Sega music composer	Up to student	2311721	Mokshada Bissonauth
Anwar Chutoo	AC7	Block Chain, Polkadot	Developing an application on Polkadot	Polkadot is defined as a blockchain network of networks. The purpose of this project is to develop an application over the polkadot ecosystem.	Student should identify an application that will be developed over the polkadot network. Student should provide a comprehensive development cycle for the application	An application of students choice over the Polkadot network	Up to student	2314045	Yudish Dourgah
Anwar Chutoo	AC8	Cloud computing	Enhancing Google Classroom Functionalities	This project requires developing functionalities that can be used over the Google Classroom and Google educational suite, that will help UoM academics to streamline their class delivery.	Project aims at developing additional functionalities over the Google Classroom and Google Educational Suite.	Add ons that can be added to the Google Educational Suite	Up to student	2312781	Ridwaan Muhammad Beekawa
Dr Avinash Mungur	AM1	Quantum Computing and Cryptographic Threat Simulation	Simulating Quantum Threats to RSA Cryptography Using Cirq	RSA is one of the most widely used public-key cryptographic systems, securing everything from online banking to government data. However, with the development of quantum computers, RSA is at risk due to algorithms like Shor's, which can efficiently factor large integers â€" the mathematical foundation of RSA. While current quantum computers can't yet break practical RSA keys, simulation tools like Cirq can help demonstrate how even a small-scale quantum computer can theoretically undermine RSA's security. This project aims to simulate such threats to raise awareness and prepare for a post-quantum era.	To simulate the quantum factorization of small integers using Cirq to demonstrate the vulnerability of RSA encryption to quantum computing attacks.	Quantum circuit simulation of Shorâ€™s algorithm (factorizing small numbers like 15, 21). Python scripts using Cirq to build and run the circuits. Report explaining how quantum computing poses a threat to RSA encryption. Comparative analysis of classical vs quantum approaches to factoring.	Cirq (Googleâ€™s Quantum Framework) â€" to simulate quantum circuits Python 3.x â€" programming language NumPy, matplotlib â€" for visualization and numerical operations	2313155	Nitendra Poonit
Dr Avinash Mungur	AM2	Quantum Computing and Post-Quantum Cryptography in E-Government	Securing the Mauritius National Identity Card System Using Post-Quantum Cryptography	The Mauritius Identity Card (NIC) system stores sensitive citizen information such as biometric data, personal identity numbers, and addresses. With the advancement of quantum computing, current cryptographic methods (like RSA and ECC) are vulnerable to being broken by quantum algorithms such as Shorâ€™s algorithm. This creates a critical risk for the long-term confidentiality and integrity of national identity infrastructure. There is a need to explore quantum-safe alternatives to ensure that data in transit and storage remains secure even in a post-quantum era.	To design and simulate a secure identity data transmission and storage mechanism for the Mauritius NIC system using post-quantum cryptographic techniques.	A prototype system for secure citizen authentication and data transmission using post-quantum encryption. Integration of quantum-safe digital signatures for NIC data integrity. Simulation report comparing quantum-safe algorithms to classical RSA/ECC.	Qiskit (IBM Quantum) â€" for simulation of quantum threats Python â€" for developing the prototype and integrating crypto libraries Open Quantum Safe (liboqs) â€" for implementing post-quantum cryptographic algorithms	2314049	Yudhistir Neel Dowlull

Supervisor	Code	Area	Project Title	Problem Statement	Objective	Deliverables	Tools	ID	Student Name
Dr Avinash Mungur	AM3	Cybersecurity â€" Network Threat Detection and Wireless Security	Design and Implementation of a WiFi Honeypot System for Detecting Malicious Activities	Wireless networks are highly susceptible to various attacks such as eavesdropping, rogue access points, man-in-the-middle (MitM) attacks, and credential harvesting. In public or semi-public environments like university campuses, detecting unauthorized users or malicious entities is a growing challenge.

Traditional firewalls and intrusion detection systems often overlook WiFi-specific threats, particularly at the access point level. There is a need for a lightweight, deployable WiFi honeypot system to detect, log, and alert administrators of suspicious or malicious activities in real-time. | To design and implement a WiFi honeypot system capable of attracting potential attackers, logging their actions, and detecting malicious behavior patterns. | Deployed WiFi honeypot simulating an open or lightly secured access point.

Traffic capture tool (e.g., tcpdump, scapy, or Python script) for monitoring attacker actions.

Alert and logging system to record suspicious connections or login attempts.

Visual dashboard or command-line interface for administrators to monitor live activity. | Python 3.x â€" core programming language Hostapd / Aircrack-ng â€" for setting up fake access points Scapy / tcpdump / Wireshark â€" for packet sniffing and analysis Flask / Django (optional) â€" for a lightweight dashboard Linux OS (Kali or Ubuntu preferred) â€" due to wireless tool compatibility | 2314080 | Sheik Muhammad Ali Koheeallee |
| Dr Avinash Mungur | AM4 | Network Security â€" Threat Simulation and Defense Using Cisco Packet Tracer | Simulation of Network Threats and Mitigation Techniques Using Cisco Packet Tracer | Modern networks are constantly targeted by various cyber threats such as IP spoofing, MAC flooding, Denial-of-Service (DoS), unauthorized access, and man-in-the-middle attacks. Organizations often lack a safe and controlled environment to study, simulate, and understand how these threats occur and how they can be mitigated.

There is a need for a cost-effective and educational simulation platform where network threats can be emulated and defense strategies tested. Cisco Packet Tracer provides a virtual network environment suitable for understanding network security at a practical level. | To simulate common network security threats and implement defense mechanisms in Cisco Packet Tracer for educational and training purposes. | Cisco Packet Tracer (.pkt) simulation file with: Network topology and Configured threats Security features enabled Configuration scripts and command documentation (e.g., for ACLs, port security) Detailed technical report with: Threat descriptions and Steps to replicate each attack Screenshots of configurations and packet behaviour Mitigation testing results | Cisco Packet Tracer (latest version recommended) | 2315075 | Mahijithsingh Mungur |
| Dr Avinash Mungur | AM5 | Green Computing and Energy-Efficient Network Design | Design and Simulation of an Energy-Efficient Enterprise Network Architecture | As networks scale to meet the demands of cloud computing, IoT, and 24/7 data access, their energy consumption grows significantly, leading to higher operational costs and environmental impact. Traditional network architectures do not prioritize energy optimization. Routers, switches, and access points remain powered on at full capacityâ€"even during periods of low traffic.

There is a need for energy-aware network designs and control strategies that dynamically adjust device usage based on network load while ensuring performance and reliability. | To design and simulate an enterprise-level network that dynamically reduces energy consumption during low-usage periods without compromising performance. | Simulated network topology (in Packet Tracer or GNS3) with: Switch/router configurations Dynamic energy-saving rules

Scripts or scheduling logic for device sleep modes or link rate changes (if tool supports it)

Performance and energy analysis report comparing: Traditional vs energy-efficient setup Off-peak vs peak usage scenarios | Cisco Packet Tracer | 2313378 | Vishnav Veerbhadr Vighnesh Gowrea |

Dr Avinash Mungur	AM6		Cybersecurity â€" Cyber Attack Simulation and Defense in Virtual Environments	simulating Real-World Cyber Attacks and Defense Mechanisms in a Virtual Lab Environment	Cyberattacks such as phishing, ransomware, DDoS, and privilege escalation continue to evolve in complexity and frequency, threatening organizations worldwide. However, hands-on experience with these attacks is limited due to ethical, legal, and safety concerns. There is a need for a controlled virtual lab environment where cybersecurity students and professionals can simulate real-world cyber attacks, understand their mechanics, and test defense strategies safely.	To develop a comprehensive virtual lab platform that simulates various real-world cyber attacks and allows users to practice detection, mitigation, and response strategies.	A fully functional virtual lab environment with simulated vulnerable machines and attacker tools. Step-by-step attack simulation scripts and documentation. Defence configuration scripts and recommended best practices.	Kali Linux (attacker machine) Metasploitable 2/3, OWASP Juice Shop, Damn Vulnerable Web Application (DVWA) (target vulnerable systems) VirtualBox / VMware Workstation â€" virtualisation platform"	2313277 Shruteebye Paddia
Dr Avinash Mungur	AM7		Artificial Intelligence â€" Natural Language Processing and Machine Learning	Development of a Fake News Detection System Using Machine Learning Techniques	The widespread dissemination of fake news on social media and news platforms poses serious threats to public opinion, democracy, and social stability. Traditional fact-checking methods are slow and manual, unable to cope with the rapid pace and volume of content online. There is an urgent need for automated systems that can analyze news content in real-time and classify it as genuine or fake using machine learning techniques, thus aiding users and platforms in filtering misinformation.	To design and implement a machine learning-based system that accurately detects and classifies fake news articles from real news based on textual content analysis.	A trained machine learning model capable of classifying news articles as fake or real. Source code for data preprocessing, feature extraction, model training, and evaluation. A web-based interface or desktop app for user interaction.	TensorFlow/Keras or PyTorch or others	2313993 Tanoo Joyekurun
Dr Avinash Mungur	AM8		Cybersecurity â€" Network Protocol Security and Privacy	Security and Privacy Analysis of DNS over HTTPS (DoH) Protocol in Modern Networks	Traditional DNS queries are sent in plaintext, making them vulnerable to surveillance, spoofing, and man-in-the-middle attacks. DNS over HTTPS (DoH) aims to mitigate this by encrypting DNS traffic using HTTPS, thereby enhancing privacy. However, DoH also introduces new challenges: it can bypass local DNS filtering (e.g., parental controls, enterprise firewalls), complicate network traffic inspection, and raise concerns around centralization (since major DNS providers like Cloudflare and Google handle a large portion of DoH traffic). There is a need to analyze both the security benefits and potential risks of deploying DoH in different environments such as home, enterprise, and public networks.	To analyze the security and privacy improvements brought by DNS over HTTPS and evaluate its impact on network visibility, filtering, and user privacy in various network environments.	Functional and architectural comparison between DNS and DoH Security and privacy analysis (pros and cons) Use-case scenarios for home, enterprise, and ISP-level networks Traffic capture and analysis files showing DoH vs DNS behavior using tools like Wireshark. Scripts/configurations to enable/disable DoH in browsers (Firefox/Chrome) and operating systems.	Wireshark / tcpdump â€" for DNS/DoH packet analysis Kali Linux / Ubuntu â€" testbed for spoofing or packet sniffing Firefox/Chrome browsers â€" for configuring DoH	2312846 Krishna Jheengoor
Sameerchand Pudaruth	SP1	AI	Translate Texts from Bhojpuri Morisien to Kreol Morisien	The problem is the lack of automated translation tools to convert Bhojpuri Morisien into Kreol Morisien, limiting communication and accessibility for speakers of these languages in Mauritius.		To translate texts from Bhojpuri Morisien to Kreol Morisien	A software to translate texts from Bhojpuri Morisien to Kreol Morisien	Python and Web Technologies	2310852 Sidharth Sing Ramgoolam
Sameerchand Pudaruth	SP2	AI	Translate Texts from Kreol Morisien to Bhojpuri Morisien	The problem is the lack of automated translation tools to convert Kreol Morisien into Bhojpuri Morisien, limiting communication and accessibility for speakers of these languages in Mauritius.		To translate Texts from Kreol Morisien to Bhojpuri Morisien	A software to translate Texts from Kreol Morisien to Bhojpuri Morisien	Python and Web Technologies	2314319 Harsh Kumar Bheem
Sameerchand Pudaruth	SP3	AI	Convert Bhojpuri Morisien Texts into Speech	The problem is the lack of automated conversion tools to convert Bhojpuri Morisien into speech, limiting communication and accessibility for speakers of these languages in Mauritius.		To convert Bhojpuri Morisien Texts into Speech	A software to convert Bhojpuri Morisien Texts into Speech	Python and Web Technologies	2311718 Khoushal Ahotar

Supervisor	Code	Area	Title	Problem	Aim	Deliverable	Tools	Student ID	Student
Sameerchand Pudaruth	SP4	AI	Convert Bhojpuri Morisien Speech into Texts	The problem is the lack of automated translation tools to convert Bhojpuri Morisien speech into text, limiting communication and accessibility for speakers of these languages in Mauritius.	To convert Bhojpuri Morisien Speech into Texts	A software to convert Bhojpuri Morisien Speech into Texts	Python and Web Technologies	2312823	Rushika Mochee Roy
Sameerchand Pudaruth	SP5	AI	Translate Kreol Morisien to Bhojpuri	The problem is the lack of automated translation tools to convert Kreol Morisien into Bhojpuri Morisien, limiting communication and accessibility for speakers of these languages in Mauritius.	To translate Kreol Morisien to Bhojpuri	A software to translate Kreol Morisien to Bhojpuri	Python and Web Technologies	2314782	Doshagyasing Gowardun
Sameerchand Pudaruth	SP6	AI	Translate Bhojpuri Morisien to Kreol Morisien	The problem is the lack of automated translation tools to convert Bhojpuri Morisien into Kreol Morisien, limiting communication and accessibility for speakers of these languages in Mauritius.	To translate Bhojpuri Morisien to Kreol Morisien	A software to translate Bhojpuri Morisien to Kreol Morisien	Python and Web Technologies	2310713	Smriti Gavina Beharee
Sameerchand Pudaruth	SP7	AI	Translation of Mauritian Legal Texts from English to Kreol Morisien	The National Assembly of Mauritius aims to translate all legislative acts from English to Kreol Morisien (KM), but there is currently no fully automated or standardised system to accurately translate complex legal language into KM, posing challenges in legal accuracy.	To translate Mauritian Legal Texts from English to Kreol Morisien	A software to translate Mauritian Legal Texts from English to Kreol Morisien	Python and Web Technologies	2313218	Sivakumara Chengubraydoo
Sameerchand Pudaruth	SP8	AI and Education	An online AI Tutor for Maths at PSAC level	Many Primary School Achievement Certificate (PSAC) students in Mauritius face difficulties in learning mathematics due to limited access to personalised tutoring and practice resources. There is currently a lack of accessible and interactive platforms that provide AI-powered, tailored learning experiences for PSAC-level mathematics, resulting in gaps in understanding and performance.	To implement an online AI Tutor for Maths at PSAC level	An AI-based online platform to teach PSAC level Maths	Python and Web Technologies	2314761	Souhasi Dootooa
Sameerchand Pudaruth	SP9	AI and Education	An online AI Tutor for French at PSAC level	Many Primary School Achievement Certificate (PSAC) students in Mauritius face difficulties in learning French due to limited access to personalised tutoring and practice resources. There is currently a lack of accessible and interactive platforms that provide AI-powered, tailored learning experiences for PSAC-level French, resulting in gaps in understanding and performance.	To implement an online AI Tutor for French at PSAC level	An AI-based online platform to teach PSAC level French	Python and Web Technologies	2313595	Surajsingh Podano
J. Seetohul	JS1	Computer Science	Incident and Location Monitoring System	Can incident reaction time and location tracking for rural and/or elderly individuals be improved through the use of an Android device, without the need for external sensors? Currently, in many rural areas have low emergency response times and it can be very difficult for emergency units to pinpoint the exact location where incidents have occurred. The target response time for an ambulance responding to a life-threatening situation currently stands at 8 minutes or more. Over the past years a relatively low percentage of emergency calls were responded to within that target time and it has dropped when dealing with rural areas.	Using the Incident and Location Monitoring System, precise information can be sent at the time of an incident to predefined contacts or emergency services to improve the chances of hitting target response times, thus increasing people's chances of survival from their injuries. This project also addresses the issue of being able to track individuals whose current location is unknown, particularly those who cannot be relied upon for information, such as Alzheimer's and Dementia sufferers, who may have forgotten their surroundings. Currently, studies show that 6 out of 10 people with Dementia will wander and then become disoriented with their surroundings. This can become dangerous if they are in an unfamiliar setting and cannot be found quickly which can cause great distress for the individual's family and loved ones. All this information is supported by a cloud-based web application where the user's event information, current location and movements can be viewable for analysis.	An application that inhibits the above elements.	General knowledge of Android, Spring Boot, Heroku, PostgreSQL, Google Maps, HighCharts with sound programming skills. Final choice of tools and technologies will be based on the findings of the technological analysis.	2311031	Luvraj Kaundun

J. Seetohul	JS2	Computer Science	Emergency Volunteer Dispatch and Management System	The management and dispatching of second-line voluntary emergency services using traditional means (phone calls etc) are not very efficient. Second line emergency services are called upon to assist the statutory agencies in times of severe weather incidents and in large search and rescue operations. Currently there is no system in place for dispatching second-line services such as the Civil Defence. This can lead to a delayed response time from emergency volunteers.	This project aims to increase the response time and level of response from a voluntary agency, such as the Civil Defence during normal daytime hours and in particular during the night when phones are generally on silent mode.	This project has two separate applications that work together to increase efficiency. A web application that would provide a management console for the officer in charge to manage his/her volunteer team. The console allows access to a wide range of management options as well as the ability to trigger an urgent alert for a callout. The mobile application is intended to be installed on each volunteer's phone within the organisation. When a call goes out, the application will force the volunteer's phone out of silent and play a tone (similar to that of a pager). This would ensure that the volunteers would get the callout message and are will then be able to respond.	A sound knowledge of HTML, CSS, JavaScript, Node.js, Firebase, Bootstrap, Java, NPM. Final choice of tools and technologies is open and will be based on the findings of the technological analysis.	2311647	Luckshini Luthcheemee Pillai Narainen
J. Seetohul	JS4	Computer Science	Mobile Application for Children with Language and Communication Disorders	Children with language and communication disorders face a lot of difficulties to communicate with their parents or guardians. In this perspective, it is imperative to have an application hosted on a handy device, for example, a mobile phone to cope with this problem.	Build a mobile application that would allow children with language and communication disorders to communicate with their parents/guardians via email and Short Message Service (SMS). The application should also provide analytics which can be used by parents or medical professionals to identify trends or abnormalities in the child's behaviour and provide insight into the thoughts, feelings and needs of the child. Given that the anticipated end-user is a child with communication difficulties, usability is of central importance. The interface should be based on a â€œone-clickâ€ methodology and is designed in a way which allows children to easily interpret the functionality of each button. The application should designed to be easy to use for both children, parents and their guardians.	An application that incorporates the above features.	A sound knowledge and understanding of Android, Java, XML, Firebase, Facebook, Google, SQLite, GraphView, GitHub, Dropbox, ProGuard and Samsung. Final choice of tools and technologies will be based on the findings of the technological analysis.	2315032	Arya Kumar Ramsurn
J. Seetohul	JS5	Computer Science and Internet of Things (IoT)	IoT-enhanced Digital Baby Monitor for Nurseries	Nursery guardians/workers do not have peace of mind given that they are not equipped with a platform to check on the children.	The overall goal of this project is to build a unified system where a user can check on their child using existing technology in the home (as opposed to requiring a plethora of new devices). A Raspberry Pi based monitor will push all data to a fully functional and live website. The website will have support for all browsers and have dynamic scaling for mobile devices. This will enable it to be used on tablets and smartphones alike. It should embody three primary functions: (1) Video Stream: a solid video stream will be the cornerstone of the project. This will allow users/parents to check in on their baby from anywhere and any device; (2) Audio Stream: an audio feed to monitor for cries or issues and (3) Temperature/Humidity: two sensors to track temperature and humidity levels in the room.	An application that inhibits the above elements.	General knowledge of HTML5, JavaScript, Python, PHP, Rasbian Jeese, Node.js, .mp3 livestream and .h264 video livestream. Final choice of tools and technologies will be based on the findings of the technological analysis.	2315089	Koonjul Vijesh

J. Seetohul	JS6	Computer Science	Silent One Click-based Application for Safety Concerns	Regrettably in this day and age, situations often arise where people's personnel safety is put in danger or at risk. Since smartphones have become so ubiquitous in society, a logical step is the development of a phone application to help users in such situations.	The application should feature a location-based alert system, visualised via Google Maps. It would allow users to authenticate themselves rapidly via their Google account credentials. The home page will display the locations of ongoing alerts and a Google Map representation of their current location. A clearly represented icon will be available for the user to create their own alert. This alert will record the user's geolocation, together with details such as their name, phone number, etc., and send these to a real-time database which is monitored by the authorities. The user will be able to access further information on each alert listed by selecting it from the list. Selection of an alert will open another page with any relevant information from the authorities about the attack, together with a list of users that have declared themselves safe in that location (the functionality for a user to declare themselves safe will be provided within the app).	An application (or simulation tool) that incorporates the above features. The application will be built using Android Studio in conjunction with a cloud based database to receive data from the application. Authentication of the user will be made using their Google account, connecting to the Gmail API. To find the geolocation of the user, the app will make use of the Google Maps API.	A sound knowledge of Java, Android Studio, SQLite, NoSQL Database, JSON, Google Firebase, Google Authentication, Google Maps API and Gmail API. Final choice of tools and technologies is open and will be based on the findings of the technological analysis.	2310322	Teelwah Neelesh
J. Seetohul	JS7	Computer Science	Gym Management System	The idea of implementing a gym management system arises during the enrollment process for a new gym member. It is observed that all member information was filed as paper documents in a physical cabinet. Most people would assume that a company would have important documents with personal information securely stored on a software service. The problem is that the gym management systems did not incorporate many essential aspects. Employee management integration and member engagement were the main elements missing. it was found that many of them could not pre-book classes, resulting in them having to arrive earlier to receive a space in the class. This adds extra stress, which is the opposite goal of any gym. Many gym websites display their class times but do not have a booking system implemented.	In this project, all of these missing entities need to be added, along with current features already available, to create a comprehensive management system covering the main necessities in managing and growing a gym's business.	An application that inhibits the above elements.	Knowledge and familiarity with Pythonanywhere, Flask, Bootstrap are expected. The final choice of tools and technologies is open and will be based on the findings of the technological analysis.	2311618	Yohaan Mohadawoo
J. Seetohul	JS8	Computer Science	Diabetic Management System for Patients	Nowadays, diabetes is widespread, affecting young, middle aged and older person from several continent around the globe. Diabetes has many side effects such as tiredness, excessive thirst, nausea, heart disease and stroke. In order to control theses side effects and avoid any further complication, diabetes are required to monitor their blood glucose levels on daily basis, take medication to remedy their glucose levels and always avoid consuming drinks & foods with high sugar content. Traditionally diabetics managing their condition using logbooks for daily input, text books for nutritional information however due to mobile apps ubiquitous on which this project is based, many of daily tasks necessary for diabetes can be combined into one primary source to increase the efficiency to manage and monitor their condition.	The project's main goal is to develop an android app with the purpose of helping diabetics to manage their illness. The management system aims to: (1) provide a simple interface for allowing daily input of diabetic glucose level, insulin or pills taken and comment spaces for user's important notes; (2) provide interface to enter person name, surname, age, height, mobile, doctor email, emergency contact, diabetic type and gender; (3) visualize all of diabetic's personal data, such as daily input which is saved to database, build up over time; (4 graphic view for glucose level with the option of select date to view; (5) trigger an alert for users if he forget to take blood glucose levels; (6) send an alert email and message with user details and location in emergency when user need assistance; (7) store all his details and daily inputs in the cloud to view when he needed from any device when he/she logs in (8) act as a source of information, cutting out the need for tirelessly searching for required information elsewhere.	An application that inhibits the above elements.	Knowledge of Java, JavaScript, Android Studio, NodeJS, MySQL, PHP, Authentication and API are expected. The final choice of tools and technologies is open and will be based on the findings of the technological analysis.	2313864	Neharhika Ramnatsing

Supervisor	Code	Area	Title	Problem	Aim/Objectives	Deliverables	Requirements	Student ID	Student
J. Seetohul	JS9	Computer Science	Automating Internship Placement and Recruitment Using Matching Algorithms	Every year students from universities need to secure a placement for their Industrial Training. A high number of companies offer a wide range of positions, looking for students with a good combination of technical and social skills. However, every year some students, in spite of all their efforts, fail to secure a placement that matches their skills and technical knowledge.	The aim of this project is to simplify, enhance and automate the work placement recruitment process at univerities while maximising the satisfaction of students and companies. One of the major cost factors associated with online recruitment is time. This platform endeavours to minimize this cost factor for employers and students alike, through the application of a well-known matching algorithm (based on the classical â€œstable marriage problemâ€), which matches students and positions based on preferences. To perform such matching, employer and student preferences must be specified. Employer preferences are automated through psychometric testing (which candidates complete following registration), while student preferences are manually chosen from a list of applied positions. This automated matching process significantly reduces time-wasting, while maximising the satisfaction for all involved parties. The platform should be profile-based, allowing users to display their information on their personal profiles as opposed to a traditional CV. Its objective is to eliminate CV-style recruitment and provide a more modern and user friendly interface, in which information such as experience, education, available positions and media is displayed.	An application that incorporates the above features.	A sound knowledge and understanding of Node.js, MongoDB, Handlebars.Js, Ajax, Python, jQuery, HTML5, CSS3 and Bootstrap. Final choice of tools and technologies will be based on the findings of the technological analysis.	2313596	Ansheel Mooneesamy
Paramasiven Appavoo	PA1	IoT and AI	Context-Aware Farming Support Using IoT Sensors and Generative Language Models	Smallholder farmers often lack timely, personalized, and accessible agricultural advice. Traditional extension services are limited in reach, and most AI systems require high-end devices or lack integration with real-time field data. There is a need for an affordable, intelligent system that uses real-time sensor data to provide actionable farming recommendations in simple and understandable language.	Aim: To develop a smart farming assistant that combines IoT sensor data with a Large Language Model (LLM) to provide context-aware agricultural advice in real time. Objectives: Design and deploy a sensor node to collect real-time environmental data (soil moisture, temperature, humidity, light). Develop a backend system that transmits sensor data and formats it for processing. Integrate a Large Language Model (LLM) capable of generating natural-language farming advice. Create a user-friendly mobile or web interface for farmers to view advice and sensor status. Evaluate the accuracy, usability, and relevance of the generated recommendations.	To be discussed.	To be discussed.	2313808	Saif Ullah Inty
Paramasiven Appavoo	PA2	IoT and Blockchain	A Blockchain-Enabled IoT System for Crop Monitoring and Enhanced Food Security	Food insecurity is aggravated not only by low productivity but also by a lack of transparency in the food supply chain. Smallholder farmers face difficulties in ensuring quality and traceability of their produce, which can result in waste and unfair market access. While IoT can collect real-time data on crop conditions, the integrity and trustworthiness of this data are often questioned. Integrating blockchain with IoT can ensure tamper-proof, transparent crop monitoring that supports traceability, accountability, and food security.	Aim: To develop a secure and transparent crop monitoring system using IoT sensors and blockchain technology to enhance trust, traceability, and decision-making in agriculture, thereby contributing to food security. Objectives: Investigate and deploy IoT sensors to collect real-time environmental and soil data. Record selected sensor data (e.g., soil moisture, temperature, crop condition) to a blockchain ledger for tamper-proof traceability. Develop a dashboard that visualizes real-time data and verifies its authenticity through blockchain integration. Explore use cases such as produce certification or quality proof for markets (e.g. organic). Evaluate how the system improves transparency and contributes to food security goals.	To be discussed.	To be discussed.	2311422	Deevesh Moorut

Supervisor	Code	Category	Title	Background	Aim/Objectives	Deliverable	Resources	ID	Student
Paramasiven Appavoo	PA3	IoT	IoT-Enabled Precision Localization System for Smart Agriculture Applications	Precision agriculture relies on knowing the exact location of plants, equipment, and environmental data sources. However, standard GPS modules used in low-cost IoT systems often lack the accuracy (3â€"5 meters) needed for fine-grained tasks like plant-level irrigation, pest spraying, or autonomous machinery guidance. There is a need for a cost-effective, IoT-based localization system that can enhance positional accuracy in agricultural fields.	Aim: To develop a cost-effective and accurate IoT-based localization system for smart agriculture applications requiring high spatial precision. Objectives: Integrate GPS modules with IoT sensor nodes to capture real-time environmental and location data. Investigate techniques like BLE-based triangulation for improved accuracy. Evaluate localization accuracy under different conditions (e.g. terrain). Develop a dashboard or mapping interface to visualize sensor readings and their precise locations.	To be discussed.	To be discussed.	2311462	Mohisha Devi Seewoo
Paramasiven Appavoo	PA4		AI-Based Anomaly Detection in Trading Activities					2311695	Derek Lee Cheung
Paramasiven Appavoo	PA5		Smart Parking Monitoring System					2311670	Zaheer Mea Bin Feroz
N.Pavaday	NP1	Sustainability	Development of a sustainability scoring system	Actually no system for comparison of scores exist.	Use of AI for generating score	A software that allows score to be displayed.	None	2314159	Muhammad Ashfaq Mirzane
N.Pavaday	NP2	Security	Building an audio forensic tool	Fake audio has created a lot of suspicion in todays world.	Be able to generate and compare audio and detect fake ones.	Software that allows users to detect audio	No specific one.	2311493	Tejal Bissessur
N.Pavaday	NP3	Security	A security chat bot for the ISO standard	Most companies are interested in getting certified but what section to use is the problem.	Use of AI to build a chat bot like tool where the user gets required information.	A web or mobile platform that allows user to interact with the system for information retrieval	No specific one	2313228	Mohammad Farzeen Luqmaan Dincha
N.Pavaday	NP4	Artificial Intelligence	Analysis of Mauritian bookmakers odds using Artificial Intelligence	Most people look at the odds and try to predict the outcome.	This project will analyze all previous odds and improve forecasting.	Produce a set of results on the way forward for using previous odds.	A powerful computer give the large dataset that will be considered.	2315513	Lovesh Mungul
N.Pavaday	NP5	Artificial intelligence	Prediction of Horse racing outcome category	Most people would like to know whether the winner will be an outsider or favorite.	This project will predict the category of the winner based on the opening odds and the variations in odds that occur.	Software that does the prediction once the user inputs the data.	None	2315074	Manajithsingh Mungur
N.Pavaday	NP6	Security	Security email attachment	Most often sensitive attachments are disclosed on social media	This project aims to have an email system which helps to send attachment securely but also detects the source once it has happened.	A secure email system which uses watermark for that.	No specific one	2314918	James Nickurdean Genave
N.Pavaday	NP7	Security	Developing a tool to compare video of races	Very often it is difficult to compare to race be it horses, cars , runners among others.	This project aims at providing a tool where users will be able to overlay different races on on another so that the can start all at the same time and then compare them at different time intervals	A software that does the above.	None	2313455	Pratima Ramphul
N.Pavaday	NP9	Security	A customizable platform for doing analysis of pdf documents containing numerical data.	Most users can use pdf documents containing data as required because of a number of limitations.	Build a platform that allows users to upload pdfs documents and then allow them to customize it as well as do analysis as required,	A tool than allows the above	None	2310715	Rhea Peshaali Bhurtun
Begum Durgahee	BD1	AI, Software Development	Wheelchair Assistance bot for disabled persons	Currently in Mauritius, wheelchair accessibility is limited and not well-defined in most places (specially new places). Wheelchair users have difficulty in finding accessible places, such as toilets, wheelchair repair shops, NGOs, Hospitals, Police Stations, etc. Therefore having an application that can help them move around to accessible places would help them navigate better.	Build an intelligent wheelchair guidance and assistance system for disabled persons to navigate	An application to allow Wheelchair users locate and navigate wheelchair accessible or handicap places of interest around their location.	Open	2315240	Jayesh Nowbuth

Begum Durgahee	BD2	AI, NLP	Speech Emotion Detection	Detecting emotions from text and spoken words can be beneficial to a number of services, such as in healthcare, customer service, marketing, etc.. It can help in assisting mental health patients to assess emotional well-being. Having a system to detect emotional tones in speech can help to provide better support and treatment or even boost customer satisfaction.	Develop a system to analyze text and spoken words to identify and classify human emotions accurately	Accurately detect emotions from text and speech	Open	2313258	Oorvashi Motee
Begum Durgahee	BD3	Mobile, AR, Simulation	Navigation Assistant System	Navigating through complex buildings or large spaces can cause confusion. Having a smart app that provides instant guidance through digital markers, to visitors can save a lot of time and confusion to reach their destinations.	The aim is to have an app that allows users to navigate quickly and easily in large spaces and buildings .	Running app for a user to navigate and an admin to add buildings, rooms, paths, etc	Flutter or other Google SDK, Unity Engine (optional)	2312882	Simtysha Becceea
Begum Durgahee	BD4		AI Security Auditing Tool for Python Packages.					2312818	Bhovanen Murday
Begum Durgahee	BD5	AI, Development	An application to track user's carbon footprint	Carbon footprint refers to the total gas emissions caused by an individual, organization, event or product. Activities like transportation, energy consumption at home, eating habits, purchases made and many more, have an effect on the carbon footprint, therefore having an application that can inform a user about his carbon footprint can eventually lead to reducing these emissions. The application should be able to address emissions at their source and promote sustainable practices, by creating awareness and suggesting plans to reduce it.	Develop an application to calculate carbon footprints on user specific energy consumption and suggest how to reduce carbon emissions.	calculate user consumption carbon footprint and suggesting personalized remedial plans to be sustainable	open	2315606	Marie Elodie Mégane Ravaton
Begum Durgahee	BD6	AI, Simulation	Self driving car behavior simulation	Autonomous vehicle technology uses various sensors and lidars, however it can be simulated using predefined controls. You will have to simulate a self-driving car to drive through various environments depending on road models. It should be able to perform decision making, such as avoiding obstacles, path planning or how to deal with zebra crossing, etc.	Simulate self-driving behaviour on different environments	Running self-driving simulation	CARLA, AirSim, or any other	2311081	Nehal Dookheea
Begum Durgahee	BD7	AI, Computer Vision	Dental Examination Application	Dental examinations can be expensive and having a phone-based diagnostic tool to examine your dental status can be a game changer. Currently, AI has been used in dentistry to classify dental issues such as teeth-related disease, dental plaque and periodontium. This tool should be able to examine the dental status from an image and detect any disease, caries, etc.	Build an application that allows you to upload a picture from their devices' gallery and examine the dental problems	Detect caries or any other issues	Open to students	2313572	Aliyah Bibi Auladin

Supervisor	Code	Category	Title	Description	Aim/Objectives	Deliverable	Technologies	ID	Student
Begum Durgahee	BD8	AI, NLP	Enhance learning Application	Gamification is using video game elements in other contexts to increase engagement, whereas Game-based learning involves using real games to teach. Using gamification techniques and digital games can help students learn as they play. Both allow education to be more fun and exciting.Therefore, having such an application will help teach vocabulary, grammar, or pronunciation using fun games or speech recognition and student engagement.	Tool for enhanced learning of new languages	Running application for facilitating learning using gamification	React Native, Unity, APIs, etc.	2314682	Sahadew Nilesh Kumar
Anuja Meetoo-Appavoo	AA1	Application Developm	University Admission Mana	Universities face challenges in managing large volumes of student applications, including document handling, workflow approvals, and responding to repeated queries. Students are often confused about deadlines, required documents, and application progress, leading to administrative bottlenecks.	To develop an University Admission Management System that enables students to apply online and track their application status while automating internal workflows for faculty review. The system will also include a chatbot to provide real-time support and reduce administrative load.	Application for student application and faculty workflows	To be determined after initial investigation	2314829	Vaishnavi Khedoo
Anuja Meetoo-Appavoo	AA2	Optimization Algorith	Efficient Allocation of Limite	The availability of essential resources such as water and electricity is frequently constrained due to seasonal droughts, growing demand, and infrastructure limitations. During dry seasons or energy shortages, decision-makers face challenges in fairly and efficiently distributing these resources to households, businesses, and critical services such as hospitals or schools.	Develop an algorithm that optimizes the allocation of water or electricity, especially during dry seasons or power outages, across multiple regions using multi-objective algorithms while taking into consideration demand forecasts and priority zones (e.g., hospitals, schools) among others. Traditional allocation methods are often manual, static, or politically influenced, leading to unequal access, wastage of resources, increased hardship for vulnerable communities and poor emergency planning.	A simulation-based decision support system that demonstrates how limited resources such as water or electricity can be allocated efficiently and fairly across multiple sectors or regions.	To be determined after initial investigation	2315662	Rayush Krsna Sunassee
Anuja Meetoo-Appavoo	AA3	Optimization Algorith	Timetable Automation Syst	Manual preparation of academic timetables is a time-consuming and error-prone process, especially when dealing with constraints like limited availability of teaching staff, shared lab/classroom resources and programme overlaps across departments, to name but a few.	"The aim is to develop an automated timetable generation system that produces efficient, conflict-free, and institution-specific academic timetables. The objectives are to: (1) Collect and define real-world constraints (e.g., teacher availability, room capacities) (2) Implement an algorithm for timetable generation (3) Design a user-friendly interface for inputting constraints and visualizing timetables. (4) Develop a conflict detection and resolution mechanism. (5) Allow automated re-scheduling in case of last-minute changes (e.g., staff absence) (6) Enable custom export of timetables (e.g., for students, lecturers, or departments) (7) Allow academic staff to book rooms for catch-up classes/class tests."	A working prototype tested with real/simulated data from the University	To be determined after initial investigation	2313113	Chestaa Gokool

Supervisor	Code	Field	Title	Background	Aim and Objectives	Deliverables	Tools	Student ID	Student Name
Anuja Meetoo-Appavoo	AA4	Optimization Algorith	Automated Examination Tir	Examination scheduling is a challenging task for academic institutions, especially when managing (1) large student populations enrolled in multiple overlapping modules, (2) many resit students, (3) limited exam rooms and invigilators, (4) time constraints (e.g., 1 month exam window), (5) student and staff availability, (6) institutional policies (e.g., no back-to-back exams). Manual scheduling is tedious and time consuming.	"The aim is to design and implement a system that generates efficient, conflict-free exam timetables. The objectives are to: (1) Gather and define key scheduling constraints (2) Implement a scheduling algorithm to minimize exam overlaps and student fatigue (3) Provide manual override options (4) Allow export of final schedules in user-friendly formats (PDF/CSV) (5) Test the system using real or simulated data from the University"	A working prototype tested with real/simulated data from the University	To be determined after initial investigation	2311008	Yashveer Kisto
Anuja Meetoo-Appavoo	AA5	AI/Machine learning	Crop Disease Detection for	Crop diseases are a significant threat to agriculture, affecting both home gardeners and planters. In Mauritius, many individuals grow food at home (e.g., tomatoes, chili, lettuce, herbs), yet they often lack agricultural expertise to identify diseases early. As a result, they fail to treat problems in time, reducing yield or losing entire plants.	The aim is to develop an app that enables home gardeners and small farmers to accurately detect crop diseases using leaf images, and provides immediate diagnosis and guidance, thereby reducing crop loss and improving food self-sufficiency. The system may also predict pest outbreaks and provides early warnings based on environmental conditions, crop type, and historical pest patterns.	A mobile app where a user can upload a photo of the crop/leaf, and get a diagnosis and suggested treatment.	To be determined after initial investigation	2310461	Naomi Maneeram
Anuja Meetoo-Appavoo	AA7		AI-Powered CV Parsing and Matching System					2314381	Vinesha Abdhoosee
Anuja Meetoo-Appavoo	AA8		AI-Augmented Offensive Security Agent with Nmap Integration and Custom MCP Server					2315787	Ritesh Gomind
Anuja Meetoo-Appavoo	AA9		AI Security Agent Using Shodan					2315142	Li Shing Hiung Li Shi Lin Meryl
Associate Professor Dr. (Mrs) Sheeba Armoogum	SA1	Cybersecurity, AI	AI-Powered Phishing Email	Traditional spam filters rely on static keyword matching	Project Aim: To develop a dynamic AI-based phishing detection system that accurately classifies emails as phishing or legitimate using Natural Language Processing (NLP) and machine learning models. Objectives: 1. Collect a labelled dataset of phishing and legitimate emails. 2. Extract linguistic and structural features using NLP. 3. Train and evaluate classifiers (for example, SVM, BERT). 4. Create a simple email scanner application with results output.	A web application that flags phishing attempts and explains decision criteria (e.g. suspicious links, urgency tone).	Python, Scikit-learn, TensorFlow/Keras, Flask, Spacy, PhishTank dataset.	2311036	Rudish Valsada
Associate Professor Dr. (Mrs) Sheeba Armoogum	SA2	Cybersecurity , AI	Intrusion Detection System	Static rule-based IDS systems are ineffective against polymorphic attacks and zero-day intrusions due to their reliance on known signatures. There is a need for adaptive IDS models that learn from traffic anomalies.	Project Aim: To implement a machine learning-based IDS using supervised and unsupervised learning techniques to detect abnormal network behaviour. Objectives: 1. Use datasets like NSL-KDD or CICIDS2017 for labelled traffic. 2. Perform feature selection and dimensionality reduction. 3. Apply Random Forest, KNN, and Autoencoders for detection. 4. Visualise real-time threat detection.	A dashboard interface showing live alerts, traffic classification, and detection accuracy.	Wireshark, CICFlowMeter, Python, Jupyter Notebook, Scikit-learn, Matplotlib, Streamlit.	2310930	Shreeyash Sewnundun

Supervisor	Code	Field	Project Title	Problem Statement	Project Aim / Objectives	Expected Outcome	Tools/Technologies	Student ID	Student Name
Associate Professor Dr. (Mrs) Sheeba Armoogum	SA3	Cybersecurity, AI	AI-Based Malware Classifica	Malware variants are increasingly using obfuscation and	Project Aim: To build a malware classification system that analyses executable files using static and behavioural features and classifies them using machine learning. Objectives: 1. Collect a labelled dataset of PE files or APKs, 2. Extract features: API calls, opcode sequences, file entropy, 3. Apply models like CNN, Decision Trees, and 4. Compare static vs dynamic accuracy.	Web interface showing malware class predictions and performance metrics.	Cuckoo Sandbox, PEfile, Python, XGBoost, Ghidra, Keras.	2310967	Tirthesh Parbutee
Associate Professor Dr. (Mrs) Sheeba Armoogum	SA5	Cybersecurity, AI	AI-Based Secure Password S	Many users create weak passwords without realising the	Project Aim: To develop a password evaluator using AI that predicts the likelihood of compromise using entropy, reuse patterns, and data breach history. Objectives: Train an AI model on breached password datasets, measure entropy and structure features, predict strength and exposure risk and provide user feedback and improvement suggestions.	A web tool that evaluates and explains password strength with breach risk predictions.	HaveIBeenPwned API, Python, Flask, NLTK, Sklearn.	2315430	Hiresha Ramkissoon
Associate Professor Dr. (Mrs) Sheeba Armoogum	SA7	Cybersecurity, AI	Facial Recognition Login Sys	Most facial recognition systems are vulnerable to spoofi	Project Aim: To design a secure facial login system that integrates anti-spoofing detection such as blink recognition, depth estimation, and motion cues. Objectives: Use Dlib or OpenCV for face recognition, Integrate blink detection and 3D mapping, Train on spoof vs real face datasets, and Deploy demo login system.	An application with live face recognition and spoof detection.	OpenCV, Dlib, Python, PyTorch, LFW/SiW Datasets	2312747	Thushav Khooseeal
Associate Professor Dr. (Mrs) Sheeba Armoogum	SA8	Cybersecurity, AI	Predictive Ransomware Beh	Ransomware often exhibits detectable behavioural patt	Project Aim: To develop a behavioural model that predicts ransomware attacks based on system log analysis and file access patterns. Objectives: Use log simulation or malware sandboxes to collect data, Extract behavioural patterns and anomalies, Train ML model (e.g. LightGBM) to classify threat level, and Test prediction accuracy and time-to-detect.	A risk dashboard with prediction scores based on behavioural telemetry.	Cuckoo Sandbox, Sysmon, Python, LightGBM, Pandas.	2311430	Kamulsingh Jugdhur
Associate Professor Dr. (Mrs) Sheeba Armoogum	SA9	Cybersecurity, AI	AI-Based Network Traffic Cl	Network administrators struggle to prioritise traffic with	Project Aim: To create an AI classifier that categorises network packets into application types and allocates QoS dynamically. Objectives: Use datasets (e.g., UNIBS Traffic Trace) for model training, Build classifiers (CNN, SVM) to detect traffic types, and Create an SDN prototype for real-time QoS rules.	A smart classifier dashboard with QoS application.	Mininet, Wireshark, Python, TensorFlow, OpenFlow.	2310276	Madhav Sanmukhiya