Pooja Katrodiya

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EDUCATION

Ontario College Graduate Certificate in Artificial Intelligence and Data Science

Loyalist College in Toronto | ON, Canada *Jan 2023 – Present*

- Relevant Coursework: **AISC1000** (Python), **AISC1002** (Math for Data Science), **AISC10003** (Machine Learning 1), **AISC2004** (Data Storytelling Techniques), **AISC2001** (Data Visualization), **AISC2000** (Machine Learning 2), **AISC2007** (Deep Learning), **AISC2009** (Natural Language Processing), **AISC2013** (Deployment of AI solutions).

Master of Science (Mathematics)

Uka Tarsadia University | Bardoli, Gujarat, India | CGPA: 9.10/10.0 *Jul 2019 – Jul 2021*

- Relevant Coursework: **MT7003** (Advanced Numerical Analysis), **MT8002** (Calculus of Variations and Integral Equations), **MT8003** (Advanced Mathematical Modeling), MT7013 (Advanced Functional Analysis).
- Ranked 1st in the department and was awarded a gold medal.

Bachelor of Science (Mathematics)

Uka Tarsadia University | Bardoli, Gujarat, India | CGPA: 9.02/10.0 *Jul 2016 – May 2019*

- Relevant Coursework: **060090205** (Advanced Calculus), **060090304** (Mathematical Logic and Function), **060090402** (Higher Order Differential Equations and Transforms), **060090406** (Statistical Analysis), **060090502** (Integral Transforms).
- Ranked in the top 3 of the entire class.

TECHNICAL SKILLS

Languages:	Python, R, Matlab, Octave, Scilab, Julia
Databases:	MySQL, MS SQL Server
Frameworks and APIs:	Flask, FastAPI, PyTorch, OpenCV, TensorFlow, Keras, Scikit-learn, Pandas, NumPy, Matplotlib, Seaborn, Imblearn, MediaPipe
Tools:	Git, Tableau, Microsoft PowerBI, Jira, Trello, Jupyter, PyCharm, IntelliJ IDEA, R Studio, SSMS (SQL Server Management Studio)

EXPERIENCE

Mathematics Tutor

Self-employed | Surat, Gujarat, India *May 2021 – Dec 2022*

- Prepared lesson plans and delivered lectures providing one-on-one assistance and additional support to students struggling with mathematics concepts.
- Delivered comprehensive lessons on advanced mathematical topics, including calculus concepts such as integration and derivatives.
- Provided in-depth instruction on trigonometry, covering topics like trigonometric identities, and solving trigonometric equations.
- **Concepts**: Algebra, Geometry, Calculus, Statistics, Number Theory, Trigonometry.

PROJECTS

Hand Assistive Device for specially challenged People

Loyalist College | Git *June 2023*

- Led the development of ASL (American Sign Language) models for finger spelling and action recognition, enabling independent communication for hearing and speech-impaired individuals.

- Managed data collection, which involved scraping 350 images of alphabets, single and double-digit numbers per word from the internet, as well as creating videos for 45 action words. Following that, we cleaned the images and stored them using Amazon S3.
- Used TensorFlow for finger spelling recognition and implemented action recognition model using a Long Short-Term Memory (LSTM) neural network in TensorFlow Keras, featuring a Sequential architecture with ReLU activation.
- **Technologies**: TensorFlow, Media pipe, cv2, NumPy, Python, Flask.

Diabetes Prediction

Loyalist College | Git *June 2023*

- Developed an ensemble-based predictive model with a primary focus on diabetes prediction, aimed at early detection and providing individuals with valuable insights for proactive health management.
- Created the model by implementing extensive data preprocessing, which involved data scaling and the utilization of a decision tree algorithm.
- Improved the accuracy score significantly (by 6%) by applying bagging technique, resulting in an enhanced accuracy of approximately 77.60%.
- **Technologies**: Pandas, NumPy, Sklearn.

Patient Recovery Time Predictor

Loyalist College | Git *March 2023*

- Analyzed patient recovery times using various machine learning techniques which can potentially enhance resource allocation and discharge planning, indirectly improving hospital bed allocation.
- Conducted comprehensive data preprocessing, including feature selection using SelectKBest with F-regression score, replacing missing values by mean, and data type conversion, ensuring an optimal model.
- Initially considered Ridge Regression for multicollinearity but achieved similar results with Linear Regression, underscoring the importance of thoughtful model selection.
- **Technologies**: Scikit-learn, Pandas, NumPy, Matplotlib, Seaborn, Python.

Purchase Predictor: Social Media Ads

Loyalist College | Git *Feb 2023*

- Developed a predictive model using logistic regression for analyzing user responses to social media ads to produce data-driven insights for shaping marketing strategies, based on links between user demographics and purchasing patterns.
- Utilized label encoding to transform categorical gender data into a numerical format suitable for analysis.
- Identified crucial factors affecting user purchase decisions, highlighting the significance of age, estimated salary, and gender.
- **Technologies**: Pandas, NumPy, Matplotlib, Seaborn, Python.

THESIS

Job Satisfaction of Employees in the Aviation Industry through Mathematical techniques

Uka Tarsadia University | Bardoli, Gujarat, India *Jan 2021 – Jun 2021*

- Studied and presented techniques that could be used to track job satisfaction of Aviation employees at 2nd International Conference at Veer Narmad south Gujarat University (VNSGU), Surat.
- Programmed Entropy, CRITIC and Proposed TOPSIS mathematical modelling methods to calculate job satisfaction scores and compare them.
- Wrote code in Octave to determine the accuracy of the utilized models.
- **Worked on:** GNU Octave programming, Entropy, CRITIC, Proposed TOPSIS, MCDM Weighing Methods.

CERTIFICATIONS

- Machine Learning Specialization, Coursera – DeepLearning.AI
- SQL for Data Science, Coursera– University of California, Davis
- Data Science Math Skills, Coursera – Duke University
- Data Analysis for Python, Coursera– University of Pennsylvania