Diploma in Applied Data Science

Duration: 5 months

Timing: 8.30pm- 9.30pm (Mon- Fri)

Syllabus

Module 1: Begin with Excel

- Exploring Excel
- Advance functions
- Professional charts in Excel

Module 2: Advanced Excel

- Pivot table – Create, format, edit
- Creating master pivot table
- Slicers and get pivot data

Module 3: Visualization with Tableau

- Exploring different visualizations
- Groups, Sets and Parameters
- Calculated field, Level of Details (LOD)
- Filtering, Slicing and dicing

Module 4: Advanced Business Intelligence

- Advanced data prep and analytics
- Creating dashboards with KPIs
- Art of Story telling
- 2 Portfolio projects

Module 5: Descriptive Statistics

- Numerical and categorial variables
- Mean, median, mode
- Variance, correlation, regression

Module 6: Inferential Statistics

- Central limit theorem
- Confidence intervals
- Hypothesis testing

Module 7: Exploring Data Analysis

- Data exploration and manipulation
- Data visualisation
- Data manipulation

Module 8: Machine Learning -Regression

- Multiple linear regression
- Decision trees
- Bagging and boosting
- Regression metrics

Module 9: Machine Learning -Classification

- Logistic regression
- Tree based models- Decision tree, Random Forest, XG Boost
- Support vector machine
- Naïve byes
- K nearest neighbours and k means clustering

Module 10: Data pre- processing

- Encoding categorical data
- Missing value and outlier treatment
- Feature engineering
- Dimensionality reduction techniques

Module 11: Advanced Machine Learning

- Ensemble modelling
- Text analytics
- Time series forecasting

Module 12: Deep Learning

- Intuition – back propagation and activation function
- Initialization and optimizers
- Convolutional Neural Networks (CNN)

Module 13: Data Engineering

- Introduction to SQL
- Data joining
- EDA with SQL

Module 14: Putting it all together

- Create end to end ML models
- Publish the model with user interface
- Build project portfolio in Github

Optional

Module 15: Visualization with Power BI

- Connecting and shaping data
- Creating table relationships
- Data modelling in Power BI

Module 16: Advanced BI

- Analysis and calculations with DAX
- Visualizations with Power BI reports
- Data transformation with Power query editor
- 2 portfolio projects

Projects

- ✓ Bank credit risk modelling
- ✓ Predicting customer purchase
- ✓ Netflix competition
- ✓ Sentiment analysis using twitter
- ✓ Spotify song recommendation