

ACADEMIC QUALIFICATIONS

Year	Degree /Board	University /Institution	%/CGPA
2025*	Post Graduate Diploma in Business Analytics	IIM Calcutta, IIT Kharagpur, ISI Kolkata	-
2020	B.Tech Mechanical Engineering	Indian Institute of Technology Palakkad	7.58/10
2015	CLASS XII	AMHSS thirumala	84.58 %
2013	CLASS X	ST.MARY'S central school poojapura	9/10

KEY SKILLS/TOOLS Excel, SQL, Python

WORK EXPERIENCE (34 Months)

ITI Ltd	Assistant Executive Engineer	Bangalore (Sep '20 - Jul '23)
RESPONSIBILITIES	<ul style="list-style-type: none"> Conducted EMC tests for Electronic Devices and certified electromagnetic compliance for 50+ products. Performed waveform verification for each test periodically as per IEC 61000 Standard requirements. Prepared SOPs, test plans and test reports for all Conducted susceptibility tests performed in the Lab. Calculated Expanded uncertainty in the measurement for each test with 95% CI, as per NABL guidelines. Evaluated the technical compliance of the bid for procuring testing equipment for MIL standard-461 F. Conducted test price estimation taking into account CAPEX, OPEX, test frequencies & competitor pricing. 	
ACHIEVEMENTS	<ul style="list-style-type: none"> Received commendation letter from the CMD for acquiring NABL testing accreditation on the first attempt. 	

INTERNSHIPS (2 Months)

ISRO IPRC	Intern	Mahendragiri (May '19 - Jul '19)
RESPONSIBILITIES	<ul style="list-style-type: none"> Performed distortion analysis of Dome assembly of cryogenic component using SYSWELD simulation sw. 	

ACADEMIC PROJECTS

Dynamic portfolio optimisation (Dynamic Programming)	<ul style="list-style-type: none"> Checked for Log normality of return by KS Test and chose myopic portfolio using the Markowitz method Found the efficient frontier, selected 10 optimal portfolios and calculated their Log return parameters. Created a wealth grid assuming GBM for stock returns, and calculated the transition probability tensor. Found optimal Portfolios maximising the prob of attaining terminal wealth goal using Bellman Equation
Weekly Sales Forecast (Time Series)	<ul style="list-style-type: none"> Applied Box-Cox transformation (λ 0.33, MLE) to address heteroscedasticity and normalize data. Conducted ADF test for Stationarity and examined ACF & PACF plots to identify a set of potential models. Fitted SARIMA & Holt-Winters models with hyperparameter tuning through grid search using MAPE. Chose SARIMA with a MAPE score of 24.70% and an AIC score of 982.795, performed residual analysis.
Asset Pricing (Regression)	<ul style="list-style-type: none"> Regressed log returns of Amazon's stock using CAPM, Fama-French 3 & 5-factor model over past 4 years. Validated the models on a 2-month dataset, achieving an MAE of 0.0075 and an Adjusted R² value of 0.52 Conducted Breusch-Pagan and Durbin-Watson tests to check heteroscedasticity and autocorrelation. Recommended White's heteroscedasticity-consistent estimators for robust standard error estimation.
Medical Text Classification (NLP, SVM)	<ul style="list-style-type: none"> Performed NER on cleaned text data and leveraged identified entities by applying TF - IDF vectorization. Addressed class imbalance in the data by applying SMOTE technique to PCA-transformed feature space. Implemented Classification algorithms - LR - Elastic-Net, Random forest -Adaboost, SVM with kernels. Achieved F1 score of 0.64, accuracy of 0.65 for SVM with RBF kernel (investigated drop in some classes).
Movie Recommender System (RL)	<ul style="list-style-type: none"> Implemented an actor-critic based RL model for Movie recommendation using rating history as state rep. Used Sampled deterministic policy gradient & temporal difference method network weight updation. Deployed a state representation module for capturing the user-item interaction without much overfitting. Evaluated the trained model using testing data and achieved a HIT value of 0.38 and a DCG score of 0.21.

ADDITIONAL PROJECTS

Customer Segmentation (Clustering)	<ul style="list-style-type: none"> Applied RFM technique and estimated Pareto/NBD and gama-gama parameters with L2 regularisation. Predicted the expected customer purchase freq, Lifetime, monetary and thereby CLV for each customer. Applied RFM segmentation and K-Means Clustering based on RFM and CLV with a Silhouette score of 0.67.
Coded ML Algorithms (W/O Libraries)	<ul style="list-style-type: none"> Wrote from scratch MLP classifier in Python using mini-batch gradient descent and Adagrad optimiser. Coded Naive Bayes classifier from scratch in Python, along with Laplace smoothening hyperparameter. Wrote K-Means & Agglomerative clustering and Evaluated the Silhouette Score & Jaccard similarity.
Synthetic Hand Print Generation (PCA)	<ul style="list-style-type: none"> Aligned hand shapes through rotation, scaling, translation. Computed mean shape and covariance matrix. Derived eigenvalues and eigenvectors from the covariance matrix to capture primary shape variations. Generated new hand shapes by adding random linear combinations of top eigenvectors to the mean shape.

POSITIONS OF RESPONSIBILITY & EXTRA CURRICULARS

Case Book	<ul style="list-style-type: none"> Devised solutions for e-commerce & telecom industry related cases in 2nd version of PGDBA DS casebook
Decoration Team	<ul style="list-style-type: none"> Was a member of the Decoration team for Petrichor 2018, the techno-cultural fest of IIT Palakkad.

ELECTIVES : ML, Bayesian Methods, SAAPM, Comp-Finance , FRM INTERESTS : Gaming, Power Lifting