Vijay Prakash

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EDUCATION

Indian Institute of Technology Bombay, India **Jul'21 - Apr'23**
M.Tech in Educational Technology (CSE) CGPA: 9.44/10.0

Government Central Textile Technology Institute Kanpur, India **Jul'17 - Jun'21**
B.Tech in Chemical Engineering CGPA: 7.65/10.0

Jawahar Navodaya Vidyalaya, Manaharajganj, India **Mar'14 - Apr'16**
School Certificate – Mathematics Discipline CGPA: 8.60/10.0

PROFESSIONAL EXPERIENCE

National Program Manager, Ministry of Rural Development, PRADAN [Full Time] **May'25 – Present**
Focus: *MIS, Technology Innovation, CLF Web App, LMS, LokOS Portal, Operations & Stakeholder Management.*
- Leading end-to-end management of national-level MIS & technology interventions including CLF Web App, LMS, and LokOS, ensuring standardization and scalability across States/UTs.
- Driving digital transformation initiatives (cloud adoption, automation, dashboards) to strengthen data-driven governance impacting millions of rural households.
- Coordinating with Nation wide teams, DIC, & stakeholders for program execution, capacity building, and sustainable operations.

Data Manager, The Education Alliance, State Education Board Govt. of Punjab [Full Time] **Mar'24 – Apr' 25**
Tech-stack: *Python, SQL, Pandas, NumPy, Matplotlib, Seaborn, Scikit-Learn, Azure, Microsoft Fabric, Django, FastAPI, Power BI.*
- Led the Azure Cloud deployment to boost the statewide MIS, improving ETL processes & real-time data accessibility, leading to robust, data-driven decision-making over 90 lakh users. Oversaw team efforts from design to execution, achieving seamless system integration.
- Developed and actively maintained live dashboards to track and analyze state fund allocations and usage, along with work progress for over 19,000 government schools, markedly improving transparency and enhancing operational accountability throughout the state.
- Orchestrated daily data & Tech operations, from preprocessing and analysis to generating actionable insights for stakeholders. Led development of new MIS 2.0 to address legacy issues, ensuring system's future readiness and resilience.

AI Engineer, BluSim Tech. Singapore [Full Time] **Apr'23 – Mar'24**
Tech-stack: *Python, TensorFlow, LSTM, Flask, Transformer, Git, AWS, CUDA, Docker, MongoDB, Scikit-Learn, PyTorch, Django.*
- Spearheaded development/deployment of ML models for Piezoelectric-based IoT healthcare mat using TensorFlow/CUDA, optimizing workflows with Raspberry Pi 4 & accelerating real-time processing.
- Pioneered non-contact health monitoring via BCG technology using IoT sensors, replacing traditional ECG methods for sleep/vital signs tracking.

Data Scientist, Kotak Education Foundation [Internship] **May'22 – Jun'22**
- Managed & analyzed scholarship data for 10,000+ beneficiaries using Python/SQL, optimizing pipelines & generating actionable insights for strategic decisions.
- Developed interactive dashboards (Power BI/Tableau) to enhance operational transparency & decision-making.

Management Trainee, Reliance Industries Limited [Internship] **Oct'20 – Jan'21**
- Conducted in-depth research on fabric dyeing machine adaptability across materials, analyzing industrial processes & gaining Industry management practice exposure.

KEY PROJECTS

Developed an AI System to Generate Questions and Answers from Content. **Oct'22 – Nov'22**
Tech-stack: *T-5 Model, SQuAD Dataset, Gradio, Questgen NLP.*
- Implemented T-5 model on the SQuAD dataset. Integrated Gradio for UI and employed Questgen with NLP for precise results.

NPTEL Course Recommendation System. // *Content-based Filtering, Apriori Algorithm, Pandas, NumPy.* **Jan'21 – Mar'22**
- Executed data preprocessing & descriptive analytics using Python libraries (NumPy, Pandas, Matplotlib, Seaborn). Implemented hybrid recommendation system combining content-based filtering & Apriori algorithm for personalized course suggestions.

Health Insurance Cost Prediction. // *Random Forest, Regression Models, Feature Engineering.* **Jan'21 – Mar'22**
- Developed predictive model using data preprocessing techniques (ordinal encoding, one-hot encoding). Achieved R^2 score of 0.85 with Random Forest regressor, demonstrating high predictive accuracy.

Student Performance Prediction Engine. // *Decision Trees, OULAD Dataset, Python, Scikit-learn.* **Aug'21 – Nov'21**
- Performed feature engineering and exploratory data analysis on the Open University Learning Analytics Dataset (OULAD). Utilized various ML algorithms including Naïve Bayes, GLM, Logistic Regression, Deep Learning, Decision Trees, Random Forest, and Gradient Boosting Trees, achieving 81.1% accuracy with Decision Trees.

PUBLICATIONS

- **Quest-Genius: AI-Driven Personalized Learning Platform — Quasi-Experimental Study on Performance, Engagement & Equity** **EDM-'25, Italy**
- **Patent #543855: Innovative Methods & AI Systems for Learning Deficiency Assessment** **Patent-'24, India**
- **A Systematic Review of Intelligent Tutoring Systems Based on Gross Body Movement Detected using Computer Vision** **Computers and Education: Artificial Intelligence (Journal)-'23, USA**
- **Q-GENius: A GPT-Based Modified MCQ Generator for Identifying Learner Deficiency** **AIED-'23, Japan**
- **Comparative Analysis of Cognitive Levels in Indian STEM Board Examinations** **EDM-'23, India**
- **Cognitive Level Analysis of STEM Questions in Indian School Boards (ICSE, CBSE, NIOS)** **Mendeley, USA**

ACHIEVEMENTS

- Excellence Award for Data & Tech Contribution in the State MIS (by CM of Punjab). **Jan'25**
- Secured an All India Rank of 142 in the GATE 2021 Examination. **May'21**
- 2nd Place - International Mathematics Olympiad (Honored by Chief Minister). **Jan'14**

HOBBIES

Singing Guitar Anchoring Travel Football Workout Volunteering