Vinamra Rai

Third Year Undergraduate

rvinamra.github.io

rvinamra@iitk.ac.in, +91-80-0440-4430

Education

- **Indian Institute of Technology, Kanpur** — Kanpur, India
  Bachelor of Technology, Civil Engineering; GPA: 7.51/10.00 — *July 2016 – May 2020 (Exp.)*
- **Delhi Public School, Kalyanpur** — Kanpur, India
  All India Senior School Certificate Examination, CBSE; Percentage: 95.8% — *May 2016*
- **Delhi Public School, Kalyanpur** — Kanpur, India
  All India Secondary School Examination, CBSE; GPA: 10/10 — *May 2014*

Achievements

- Ranked among **top 5%** and **top 17%** in rolling leaderboard of **Titanic Survival Classification** and **House Price Prediction Problem**, respectively *2018*
- Ranked among **top 3%** out of **200,000** students in JEE Advanced 2016 *2016*
- Secured **All India Rank 198** in National Science Olympiad (SOF) *2014*
- Secured **International Rank 805** in International Mathematics Olympiad (SOF) *2014*
- Won multiple **National Level** Inter-College and Inter-School Quiz Competitions *2015-2018*

Research Experience

- **Travel Behaviour Analysis of India** — IIM Ahmedabad
  Research Intern, mentored by Prof. Sandip Chakrabarti — *May 2018 - July 2018*
  - Manipulated and analyzed **Census-2011** data to study the **work commute** and **travel behavior** of people across India, district-wise.
  - Analyzed the overnight travel data from **NSSO's 72nd Round of Survey** to explore the district-wise **medical tourism** trends across India.
  - Assisted in the conduction of the **National Capital Region: Travel Survey** to determine the **modal choice** of working population.
  - Used **R** libraries **dplyr, ggplot2** and **psych** for data analysis and manipulation.

Key Projects

- **Home Credit Default Risk**
  Open Kaggle Challenge, Home Credit Group — *July 2018 - Aug 2018*
  - **Classified** loan applicants based on their capability of repaying a loan based on their current financial status and previous history of loans.
  - Used methods such as **Gradient Descent** and **Bayesian Optimization** to conduct a guided search for the best hyperparameters.
  - Applied Python libraries **NumPy, Pandas, Scikit-Learn, LightGBM, Hyperopt**, and **Matplotlib** to arrive at the final result.
  - Achieved a **ROC-AUC score** of **0.77** (Competition Winner: 0.81) in the final evaluation of the model.
- **Automation of Linguistic Category Model**
  Prof. Aruna Divya T., Indian Institute of Management (IIM) Ahmedabad — *Aug 2018 - ongoing*
  - Developing an algorithm to automate the classification of **State Action Verbs** based on **Linguistic Category Model (LCM)** proposed by Semin and Fiedler.
  - The preliminary idea is to use the output of Part-of-Speech Tagger for classification.
  - Merging the **WordNet** and **SentiWordNet 3.0** databases to read the code for each word and its corresponding SynSets.
  - This project is a **work in progress**.

Relevant Coursework

Probability & Statistics	Introduction to Programming	Linear Algebra and ODE
Applied Psychology	Geoinformatics (O)	Computational Methods (O)
Big Data Modelling*	Corporate Finance*	Investment Philosophy* (O)

*O: Ongoing, *: Audited MOOCs*

Skills

- **Languages** : C++/C, Python, R
- **Software and Utilities** : LaTeX, Stata, Jupyter Notebook, MATLAB
- **Operating Systems** : macOS, Windows

Positions of Responsibility

- **Coordinator** Quiz Club, IIT Kanpur *April 2018 - Present*
- **Proctor** World Quizzing Championship, Kanpur Leg *June 2017*
- **President** Quiz Club, DPS Kalyanpur *Aug 2015 - March 2016*