Divyat Mahajan

4th Year Undergraduate Student
Department of Mathematics, IIT Kanpur

Homepage: divyat09.github.io
Email: divyatm@iitk.ac.in
Contact: +91 7755057756

EDUCATION

Year	Degree	Institution	CPI/ %
2014-2019	B.S. in Mathematics And Scientific Computing Double Major in Computer Science And Engineering	Indian Institute of Technology Kanpur	8.7/10.0
2014	Senior Secondary Examination	St. Stephens Sn. Sec. School, Chamba, HP	89.2 %
2012	Matriculation Examination	St. Stephens Sn. Sec. School, Chamba, HP	94.7 %

INTERNSHIPS

- **Research Intern, National University of Singapore** *May 2017-July 2017*

Mentor: Professor Wynne Hsu, School of Computing, National University of Singapore

  · Worked on building **Recommender System** that predicts Effectiveness and Side Effects on the usage of a Drug for a Patient
  · Did **Web Crawling** to make datasets and performed Baseline Evaluations using **Matrix Factorization** algorithms
  · Worked on feature extraction, feature selection and parameter tuning for the **Random Forest Regression Model**
  · Made a **Deep Learning Model** using Keras library to do Multi Label Classification of Side Effects for a patient-drug pair
  · **Additional Project**: Created Web Crawlers for Facebook and Wikipedia and integrated the crawlers with the Maroon System

- **Stance Classification of Tweets in Online Debates** *June 2016-July 2016*

Mentor: Associate Professor Vincent Ng, University of Texas at Dallas

  · Worked on predicting stance for tweets against a target, a task in **International Workshop on Semantic Evaluation 2016**
  · Developed a model for tweets that do not express opinion directly about the main target and implemented it using sklearn library

PROJECTS

- **Human emotion recognition from images** *September 2016-November 2016*

Mentor: Assistant Professor Piyush Rai, IIT Kanpur

  · Classified the emotion from facial images of humans using machine learning algorithms into seven categories
  · Generated features by using **Google Cloud Vision API** and using Neural Network in the second approach
  · Compared the above approaches by implementing **Support Vector Machine** and **K-Nearest Neighbour** for classification

- **Polynomial Approximation of Non-Convex Functions** *March 2017-April 2017*

Mentor: Assistant Professor Aakash Anand, IIT Kanpur

  · Used polynomial approximation to find the global minima of the distance function of an arbitrary point from a given curve
  · Implemented Chebyshev-Proxy Root Finder in MATLAB and determined the global minima with error in the order of 10^{-9}

- **Analyzing the Indian General Election** *March 2017-April 2017*

Mentor: Professor Harish Karnick, IIT Kanpur

  · Designed Preferential Voting Models with the aim to make a more democratic model than the current Indian Electoral Model
  · Simulated them over the data of General Election 2014 using hypothesis made from past trends and regional sentiments

- **Academics App** *May 2015-June 2015*

Mentor: Programming Club, IIT Kanpur

  · Built an android app which gives academic data like timetable, exam schedule and course details for IIT Kanpur students
  · Scraped data from website using python libraries and used SQLite to support search queries on the course details data

TECHNICAL SKILLS AND RELEVANT COURSES

Programming Languages	C, C++, Python, Matlab, Verilog, MIPS, Bash
Utilities	Sklearn, Keras, Theano, Selenium, BeautifulSoup, Git, Latex
Computer Science	Machine Learning Techniques, Data Structure and Algorithm, Algorithms II* Computer Organization, Quantum Computing*
Statistics	Probability and Statistics, Applied Stochastic Process, Statistical Inference
Other Relevant	Introduction to Economics**, Numerical Analysis and Scientific Computing

*:Ongoing, **:Secured A*(Exceptional) Grade

ACHIEVEMENTS AND EXTRA-CURRICULAR ACTIVITIES

Awards and Achievements

· Obtained **second position** in International High Performance Computing organized by **CDAC India** and Techkriti IIT Kanpur
· Secured All India Rank 1940 in JEE-Advanced 2014 out of 150,000 students with Percentile **98.71**
· Obtained Merit with **Rank 13** in Matriculation Examination and **Rank 36** in Senior Secondary Examination

Extra Curricular Activities

· **Head** (May 2017-Present) and **Senior Executive** (October 2016- April 2017) at Content Creation Cell, STAMATICS
· Volunteered in **National Service Scheme** (2014-2015) and **Blood Connect** (February 2016 -December 2016)