

Dhiraj Kumar

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EDUCATION

- **Indian Institute of Technology Kharagpur** Kharagpur, India
Bachelor of Technology in Industrial and Systems Engineering 2016 – 2020 (Expected)
GPA: 9.37/10.0 Department Rank 1
Relevant Coursework: Probability and Statistics, Design and Analysis of Algorithm, Information Systems, Linear Algebra, Operations Research, Genetic Algorithms, Regression and Time Series etc.

PUBLICATIONS

- **CL Scholar: The ACL Anthology Knowledge Graph Miner:** Mayank Singh, **Dhiraj Barnwal**, Pradeep Dogga, Sohan Patro, Ritam Dutt, Rajarshi Haldar, Pawan Goyal, Animesh Mukherjee
North American Chapter of the Association for Computational Linguistics 2018

KEY PROJECTS AND INTERNSHIPS

- **Google Summer of Code - Iodide, Mozilla**
Software Engineering Intern, Mentor - Brendan Colloran April 2018 - Present
 - Iodide is an open source web browser based frictionless portable notebook for scientific computation. Iodide notebooks are designed for scientists so that they can work flexibly and share their work without any hassle.
 - Created a server component using Django to add various features such as saving and forking of notebooks. Implemented version control and revisioning system for the notebooks.
 - Implemented various functionalities, made the notebook code more robust and performant, helped to shape the user experience and wrote tests for different components.
- **Complex Networks Research Group** CS Department, IIT Kharagpur
Research Assistant, Mentors - Prof. Animesh Mukherjee and Prof. Pawan Goyal Aug 2017 - Feb 2018
 - Worked on ACL Anthology Knowledge Graph, a project to better understand the research progress in Computational Linguistics community.
 - Developed CLScholar, an advance search portal for all the authors, conferences and research papers published within the computational linguistics community.
 - Developed the frontend on React, API on NodeJS and database on MongoDB. Wrote over 1000 MongoDB queries to support over 1200 Natural Language Queries.

OTHER PROJECTS

- **Statistical modeling for Multiple Vehicle Routing:** Constructed a multi objective mathematical model for Multiple vehicle routing with overlapping paths. Applied the model for university's Bus routing and scheduling to reduce overcrowding and operational costs. Solved the problem using NSGA II algorithm.
Term Project for Genetic Algorithm
- **Khet:** Developed mobile application for semi-literate farmers of India to remove middleman between the the farmers and consumers. The technology stack used for this project were React Native, Google Cloud Vision, NodeJS.
Term Project for Work System Design
- **Data Analysis for a Retail Chain:** Wrote a detailed analysis report for a retail chain. Made clusters using Hierarchical Clustering for different cities. Regressed through the given data to find parameters which affect total sales.

SKILLS

Languages: Python, Javascript, C, C++, SQL, ES6

Libraries/Frameworks: React, NodeJS, Django, Scikit, Tensorflow, D3, Keras, Pandas

Tools: Git, CPLEX, MATLAB, Tableau (Basics)

Research Interests: Applied Machine Learning, Statistical Modeling, Optimization and Data Analytics

ACTIVITIES AND ACHIEVEMENTS

- As **Executive Head of Kharagpur Open Source Society**, organized Open Source Summit and taught at various workshops. Helped in promoting Open Source culture at IIT Kharagpur and various colleges across India.
- Among the **Top 0.4** percentile in the Indian Institute of Technology Joint Entrance Exam Advanced-2016 (IIT JEE).