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AYUSH SHUKLA

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EDUCATION

Kharagpur, IN **Indian Institute of Technology, Kharagpur** **2011 – May 2016**

- 5 year integrated MS in Mathematics and Computing, **CGPA : 8.50 / 10**
- Coursework : Speech and Natural Language Processing, Statistical Inference, Probability and Statistics, Operating Systems, Compiler design, Database Management systems, Cryptography, Software Engineering, Algorithms, Object Oriented Design
- MOOCs : Machine Learning, Computer Networks

SCHOLASTIC ACHIEVEMENTS

- Offered a full time position as Software developer at ezDI Ahmedabad based on the work as technical intern [2015]
- Ranked 5 in the department of Mathematics, Indian Institute of Technology, Kharagpur [2015]
- Recipient of INSPIRE, a merit based scholarship awarded on the basis of academic performance [2012]

WORK EXPERIENCE

Software Developer **ezDI Health Informatics, Ahmedabad** **Summer 2015**

Web Application : a **search engine** for International Classification of Diseases **ICD-9** and **ICD-10**

- Developed a high performance search engine in Java and reduced the turnaround time to less than **8ms** for any medical title
- Implemented a see-mapping tool that enabled deep search and enhanced the performance for see and see-also links
- Proposed back-end hierarchical XML database model for over 2 lakhs medical terms that reduced the server space
- Technology stack – Spring-Boot, Spring-MVC, Apache lucene, GZip, JSoup; Regex for pre-processing unstructured data

Research Internship **Karlsruhe Institute of Technology, Germany** **Summer 2014**

Client-side Java plugin for Scientists to access sensible data from grid database

- Implemented a Java plugin for Unity software service providing authorization functionality on proxy certificates (PC)
- Provided digital attributes to client's PC that is used to access sensible resources on **big data** grids
- Explored Cryptographic aspects of the client-server architecture that uses Public Key Infrastructure (PKI) for authorization

Technical Internship **OdigMa, Bangalore** **Summer 2013**

Development of tool that analyses Twitter trending Algorithm

- Extracted data from Twitter API 1.1, stored it in a relational database with schema and analysed data on different features
- Created web interface where an end-user can access this tool and compare the graphs between trends and parameters
- Technologies used - PHP, JavaScript, MySQL; Libraries - jQuery and highcharts.js

PROJECTS

Master's Thesis Project **ongoing**

- Pattern recognition : Design an algorithm to cluster and analyze time-series curves that are robust to outliers and anomalies
- Explored different clustering algorithms – K-Means, DBSCAN to get the most accurate result for hierarchical clustering
- Evaluated the model on Canadian weather dataset using python libraries : scikit-learn, pandas, seaborn, numpy, scipy

Natural Language Processing **Fall 2015**

Classifier to segregates tweets into situational, political, communal and charity classes during disaster

- Extracted the best features for model and used backward elimination feature selection method for feature importance
- Incorporated the most accurate classifier among Gradient boosting, SVM, KNN and Random forest for unbalanced dataset
- Achieved 85% in-domain and 81% cross domain accuracy for historic disaster events
- Paper submitted to **ACM Conference** on **Human Factors in Computing Systems** (CHI) 2016, San Jose, United States

Application Development

- Developed a C# app SOS on Windows platform which sends geo-tagged location to close contacts in emergency [2014]
  (Hackathon organised by Microsoft, IDC)
- Implemented a Java GUI application for the project Newspaper Agency Automation Software NAAS [2014]
  (Software Engineering lab)
- Developed an android app ScienceProject for Akash tablet, to explore different science projects (sponsored by MHRD) [2013]
  (Advised by Prof. Anupam Basu, Department of Computer Sceince)

LANGUAGES AND TECHNOLOGIES

- C, C++, Java, Python, MySQL, Javascript, HTML, CSS, LaTex; Python Modules : scikit-learn, NLTK, pandas, seaborn
- Eclipse, iPython Notebook, Pycharm, MATLAB; Linux, Android SDK