

RISHAV RAJ AGARWAL

rishavraj.agarwal@gmail.com
<http://www.rishavrajagarwal.com>
(+91) 9621 352233

RESEARCH INTERESTS

▪ Computational Social Science | Data Sciences | Social Media Analytics | Big Data | Behavioral Analytics

INTERNSHIPS

Predicting Financial Trouble

May'16-Jul'16

Dr. Sheng-Wei "Kuan-Ta" Chen (Multimedia and Networking Lab)

Academia Sinica

- Predict the **propensity to pay bills** on time using credit card transactions and phone logs collected from over 60,000 individuals. | **R**
- **Devised metrics** to collectively predict future financial trouble using previous months from data collected over two years. | **Python**
- Publication under progress.

Cooperative Phoneotypes

May'15-Jul'15

Dr. Vivek K Singh (Communication & Information)

Rutgers University

- Analyzing **cooperation** trends using **spatio-temporal mobility data** and **survey data** from the **Rutgers Wellbeing Study**. | **R, WEKA**
- **Devised a classifier** to rank cooperators based on anonymized social activity (Call/Sms) collected over 10 weeks from 54 students
- Coined **Phoneotypes**, a set of characteristics observable via mobile phone thus motivating research in a new direction.
- Paper accepted Ubicomp 2016.

PUBLICATIONS

- Vivek Singh, Rishav Raj Agarwal 2016. Cooperative Phoneotypes: Exploring Phone-based Behavioral Markers of Cooperation. *2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing, (September 2016).*

RESEARCH PROJECTS

What makes a good relationship?

Jan'16-Ongoing

Dr. Debayan Pakrashi (Economics)

IIT Kanpur

- Identify **socio-economic markers** of a long lasting relationship using a **time series panel data** from over 10,000 individuals.
- Explore time series methods and create regression models | **STATA**

Hubness in Music Recommender Systems

Jan'16-Apr'16

Dr. Piyush Rai (Computer Science)

IIT Kanpur

- Implemented several scaling and dimensionality reduction techniques to reduce hubs and predict music using **KNN** | **MATLAB**
- Tested the model on the **Million Song Dataset** achieving 99% recommendations; and presented a **poster**.

Forecast Use Of A City Bike Share System

Jan'15-Apr'15

Dr. Harish Karnick (Computer Science)

IIT Kanpur

- Used bike sharing data from Capital Bikeshare program to analyze and predict bike sharing demand
- Achieved a closing international rank of **593 out of 3252** teams on KAGGLE, a predictive modelling platform.
- Used a myriad of Machine Learning Techniques: **SVM, Random Forest, Poisson Regression, Mixture Model, Gradient Boosted Regression** and **Classification Trees**. | **R, PYTHON**

Perceptual Account Of Symbolic Reasoning

Aug'14-Dec'14

Dr. Amitabha Mukerjee (Computer Science)

IIT Kanpur

- Testing Perceptual Manipulation Theory (*Landy et al*) for mathematical reasoning with **guidance from Dr. Landy, Indiana University**.
- Built an **online JavaScript** application and **surveyed** 40 students. | **JAVASCRIPT, MS EXCEL**
- Presented a **poster** at IIT Kanpur which was highly appreciated.

Phonetic Spell Checker (Spellnazi)

May'13-Jul'13

Dr. Sumit Ganguly (Computer Science)

IIT Kanpur

- Created a Python based app that corrects spelling mistakes based on their phonetic interpretation. | **PYTHON**
- The app uses the double **metaphone** algorithm, **n-gram analysis** and **POS tracking** | **NLTK, ML**

OPEN SOURCE

ECHO	An educational app for people to learn and master pronunciations. SPEECH DETECTION, SPEECH2TEXT.	2014
Grapevine	Windows 8 app that uses sentiment analysis to find out whether politicians have stayed true to their manifestos	2014
MOODY!	Application that analyses a user's mood based on Facebook updates and suggests music NLTK, SOCIAL MEDIA	2013

ENTREPRENEURSHIP

Objectify Technologies <www.MyObjectify.com>

Dec'13-Apr'15

MyObjectify is a 3D printing community cum marketplace.

- Created a **Business Plan** for the idea which was among the **ten best startups** at DisruptIt, IIM Bangalore.
- Developed 3d rendering app that displays 3d files on the browser.
- Represented the company at Mumbai Films and Comics Convention (MFCC'14).

EDUCATIONAL QUALIFICATIONS

Year	Degree	Institute	CGPA / %
2016	B.S. Economics (minor: AI)	Indian Institute of Technology, Kanpur (IITK)	7.7 / 10
2011	XII, CBSE	Hariyana Vidya Mandir, Kolkata	85.8 %
2009	X, ICSE	Purwanchal Vidya Mandir, Kolkata	91.4 %

RELAVENT COURSEWORK

Microeconomics -I, II (ECO201A, ECO301A)	Probability and Statistics (MSO201A)
Data Structures and Algorithms (ESO207A)	Introduction to Cognitive Sciences (SE367A)
Econometrics I, II (ECO341A, ECO342A)	Behavioral and Experimental Economics (ECO506A)
Machine Learning Techniques (CS771A)	Algorithmic Game Theory (CS656A)
Introduction to Psychology (PSY151A)	Psychology of Adjustment (PSY451A)
Introduction to Quantitative Statistics using R (PSY792A)	Probabilistic Machine Learning (CS772A)
Artificial Intelligence Programming (CS345A)	

AWARDS AND HONOURS

- Winner, **Blog for a Cause** (a nationwide social blogging contest), Techkriti'14. 2014
 - Achieved a **perfect score** of 6 (Advanced User) on the iTEP English Proficiency Exam. 2013
 - Won **pitch-ur-product** competition in the Entrepreneurship Fest, Esummit'13, IIT Kanpur. 2013
 - Secured All India Percentile of **99.3% among 479,651** candidates in IIT-Joint Entrance Exam (IIT-JEE) 2012
 - Secured All India Rank **1041 out of 1,170,000** candidates in All India Engineering Entrance Examination (AIEEE) 2012
 - Awarded for **outstanding scholastic achievement** by Ladnu Nagrik Parishad with a cash prize. 2012
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POSITIONS OF RESPONSIBILITY

- Coordinator** 2014-2015
Quiz Club
- Managed a team of 12 secretaries to ensure proper conduction of quizzes
 - Maximized the online reach and popularity (Facebook/WordPress Blog) **by 200%**
 - Organized and **hosted the largest Sports Quiz** at IIT Kanpur with footfall over 300.
- Student Mentor** 2013-2014
ESC101A, IIT Kanpur
- **Mentored** three first year **students** for ESC101A (Fundamentals of Computing) at IIT Kanpur and aided in grade improvement.
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SKILLS

Programming Languages: Python | C | C++ (STL, Boost) | R
Web Development: JavaScript | HTML | CSS | WebGL (Three.js) | Drupal
Others: LaTeX | Git | Matlab | WEKA | Stata
Languages Know: English | Hindi | Bengali | German (Basic Proficiency, Cleared A1)
Creative writing: Produced high researched articles and curated content for campus magazines, Scientia (**Editor**) and Meander (**Editor**)

REFERENCES

Available upon request.