ARCCHIT JAIN

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EDUCATION

2018 - Present	PhD Student in SYNTH (Synthesizing Inductive Data Models) Project, under Prof Luc De Raedt, DTAI, Computer Science, KU Leuven, Belgium	
2017	Pre-Doctoral Programme, Computer Science, KU Leuven, Belgium	
2015	Integrated Master of Science, Mathematics and Scientific Computing, Indian Institute of Technology Kanpur, India	CGPA: 8.0/10.0
2010	Class 12, Central Board of Secondary Education (CBSE)	93.6%
2008	Class 10, Central Board of Secondary Education (CBSE)	95.6%

RESEARCH INTERESTS

Probabilistic Logic Programming | Knowledge Base Completion | Open World Planning | Gaussian Processes

CONFERENCES

2019 Gave spotlight and poster presentation on **Scalable Rule Learning in Probabilistic Knowledge Bases** at 1st conference on Automated Knowledge Base Construction in University of Massachusetts, USA

2015 Selected among top 50 students from India to Summer School on Applied Mathematics organized by Indo-French Centre for Applied Mathematics at Indian Institute of Science (IISc), Bangalore, India

2015 Selected by Head of Department, Department of Mathematics and Statistics, IIT Kanpur to attend 2nd IKDD Conference on Data Science organized by ACM SIGKDD in Bangalore, India

2015 Selected among 450 students for Harvard US India Initiative (HUII) Conference on Developmental Initiatives

2010 Attended Vijyoshi Camp by KVPY program, Department of Science and Technology at IISc, Bangalore

ACADEMIC ACHIEVEMENTS

2016 Certified by **Institute of Actuaries of India** for 'Financial Mathematics' and 'Probability and Statistics'

2012 Received fellowship by Summer Research Fellowship Programme by Indian Academy of Science

2010 Fellow of Kishore Vaigyanik Protsahan Yojana (KVPY), awarded to top 125 aspiring scientists across India by Department of Science and Technology (DST) and Indian Institute of Science (IISc), Bangalore

2010 Attained 99.4 Percentile (among 472,000) in Joint Entrance Examination for admission into IIT

2010 Secured All India Rank of 535 (among 1.1 million) in All India Engineering Entrance Examination

RELEVANT COURSES

Big Data Analytics Programming	Uncertainty in AI	Capita Selecta in CS
Statistical and AI Techniques in Data Mining	Applied Stochastic Processes	Data Structures and Algorithms
Statistical Simulation and Data Analysis	Probability and Statistics	Numerical Computation
Time Series Analysis	Differential Equations	Theory of Computation
Principles of Programming Languages	Regression Analysis	Image Processing
Foundations of Mathematical Finance	Discrete Mathematics	Probability Theory
Linear Programming and Optimization	Linear Algebra	Graph Theory

TECHNICAL SKILLS

Python, ProbLog, PostgreSQL, Java, SAS, SQL, MATLAB, R, Mathematica, C, MS-Excel, Linux, LaTeX

EMPLOYMENT EXPERIENCE

Credit Risk Analyst, Risk and Information Management, American Express, Gurgaon Jul'15 - Apr'17

- Developed **Gradient Boosting Machine** based Credit Risk Models for 22 countries with impact of $ 7M
- Responsible for quarterly tracking of models for EMEA and weekly tracking of 243 modeling variables
- Pioneered automated defaulter tool that queries data from Teradata, scores model to generate Excels
- Working on credit bureau data of Canada to enhance payment information in 37 variables on SAS

MASTER'S THESIS

Image Compression and Denoising using Wavelets and Fractal Interpolation Functions Aug14-Apr15

Prof. G.P. Kapoor, Mathematics | Prof. Sumana Gupta, Electrical Engineering, IITK MATLAB, Mathematica

- Implemented Image Compression by Daubechies (*DB4*) Wavelets and achieved **compression ratio of 3.4**
- Implemented **Image Denoising** using thresholding by Visu Shrink, Otsu's Method with *DB4* Wavelets
- MSc Report: Download, Presentation: Download

SUMMER INTERNSHIPS

Identification of Thin File Customers and Enhancement of Credit Risk Models May-Jul 2014

Risk and Information Management, American Express, Gurgaon, India SAS

- Identified thin file customers: Card-members with little credit bureau activity for Canada, UK, Mexico, Italy
- **Improved the accuracy** and Gini score of internal credit risk models from 95% to 96% using SAS

X-Ray focal spot deblurring using Coded Aperture Imaging May-Jul 2013

Research and Development Division, Siemens, Bangalore, India MATLAB

- Created a framework in MATLAB to model blurring due to extended focal spot in X-Ray machines
- Increased life of X-Ray Tube by 5 years by increasing focal spot area on anode

ACADEMIC PROJECTS

Sentiment Analysis of 25000 IMDB Movie Reviews Apr 2015

Mentor: Prof. Amit Mitra, Statistics, IIT Kanpur Report Python

- Identified feature words using Bag of Words, Word2Vec and classified each word to a fractional sentiment value
- Explored ML Techiniques like Support Vector Machines, k-Nearest Neighbour and Artificial Neural Networks

Generalized Equalization Model for Image Enhancement Oct 2014

Mentor: Prof. Sumana Gupta, Electrical Engineering, IIT Kanpur Report MATLAB

- Implemented White Balancing and Contrast Enhancement using Histogram Equalization technique

Time Series Analysis of Kanpur's Temperature using Box-Jenkins Method Aug-Nov 2013

Mentor: Prof. Amit Mitra, Statistics, IIT Kanpur Report R

- Fitted **S-ARIMA model** on 50 years' monthly temperature series and estimated parameters by residual plots
- Accurately forecasted temperatures of 12 months using **Box Jenkins Method** with mean error under 0.5^0C

COMPETITIVE SCORES

2016 GRE 322/340 | Quantitative Reasoning 170/170 | Verbal Reasoning 152/170

2016 TOEFL 105/120 | Reading 28/30 | Listening 26/30 | Speaking 23/30 | Writing 28/30