ARCCHIT JAIN

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EDUCATION

2017	Pre-Doctoral Programme, Computer Science, KU Leuven , Belgium				
2015	Integrated Master of Science, Mathematics and Scientific Computing	CGPA: 8.0/10.0			
Indian Institute of Technology Kanpur, India					
2010	Class 12, Central Board of Secondary Education (CBSE)	93.6%			
2008	Class 10, Central Board of Secondary Education (CBSE)	95.6%			

EMPLOYMENT EXPERIENCE

PhD Candidate, Logic and Learning in Automated Data Science, KU Leuven

Feb 18 - Jan 21

Prof Luc De Raedt, Artificial Intelligence, Computer Science, KU Leuven, Belgium

ProbLog, Python, C++

- Developed a fast and scalable probabilistic rule learning system, SafeLearner, based on Lifted Inference
- Introduced a CNF learning system, *Mistle*, based on Predicate Invention and the MDL Principle
- Actively contributed to the development of **ProbLog**, a probabilistic logic programming language
- Upgraded the parameter learning system (LFI) in **ProbLog** so it could learn for any probabilistic clause
- Explored the topics of Gaussian Processes, Probabilistic Action Model Learning and Planning
- Contributed in the development of an AI based auto-completion tool of MS-Excel for the SYNTH project
- Tutored a course, Uncertainty in AI, to students enrolled in Masters in AI and CS programs for 3 years

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
- Analyzed credit bureau data of Canada to enhance payment information in 37 variables on SAS
- Recieved **Reward Blue Award** (Top 3 in a team of 20) for exemplary team work and problem solving skills

CONFERENCES

2019	Gave spotlight and poster presentation on Scalable Rule Learning in Probabilistic Knowledge Bases at the
	1^{st} 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 the $2^{\rm nd}$
	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 Kanpur
2010	Secured All India Rank of 535 (among 1.1 million) in All India Engineering Entrance Examination (AIEEE)
2009	Placed among State-wise Top 1 Percentile in National Science Examination in Physics
2008	Awarded Merit of 0.1 percentile from CBSE Board for scoring 100% marks in French in Class 10

TECHNICAL SKILLS

 $Python,\ C++,\ SQL,\ MS-Excel,\ SAS,\ MATLAB,\ Java,\ R,\ Mathematica,\ MacOS,\ Linux,\ L\!\!\!^{A}\!\!T_{\!E}\!\!X$

RELEVANT (OFFLINE) 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

MASTER'S THESIS

Image Compression and Denoising using Wavelets and Fractal Interpolation Functions Aug 14-Apr 15 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

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
- Improvised 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 Movie Reviews

Apr 2015

Mentor: Prof. Amit Mitra, Statistics, IIT Kanpur

Python

- Cleaned data of 25000 IMDB movie reviews from Kaggle using Python Libraries like BeautifulSoup and NLTK
- 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

MATLAB

- Implemented White Balancing and Contrast Enhancement using Histogram Equalization technique
- Studied a generalized equalization model and estimated parameters to balance linearity of histogram transform

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

Aug-Nov 2013

Mentor: Prof. Amit Mitra, Statistics, IIT Kanpur

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- 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°C

COMPETITIVE SCORES

2016	GRE	322/340	Quan	titative R	ea	soning 170/	170	Verb	al Reason	ing	g 152/170	
2016	TOEFL	105/120	Reading	28/30		Listening	26/30	Speaking	23/30		Writing	28/30

EXTRA CURRIULAR ACHIEVEMENTS

2013	Selected among top 30 out-of 500 teams in Manthan, India's largest youth movement, for analyzing
	solutions for Universalising Access to Quality Primary Healthcare in India
2013	Stood 2^{nd} in Siemens Intern Tech Challenge for designing SMART food adulteration kit
2012	Voted 2^{nd} most popular app for a price comparison web app in Yahoo! - Hack \mathbf{U} at IIT Kanpur
2011	Awarded Silver Medal in Water Polo in the Inter-IIT Aquatics Meet, representing IIT Kanpur
09-10	Acknowledged in succession as Quizzer of the Year at India International School, Jaipur, India
2009	Adjudged as Singer of the Year at India International School, Jaipur, India
07-08	Stood 2 nd and 3 rd respectively at Rajasthan State Open Chess Championship in U-15 and U-19
04-05	Represented school at West Zone Chess Tournament in U-14 and U-19 held by CBSE at Gwalior, India
2003	Ranked $2^{\rm nd}$ at Jaipur Open (U-10) Chess Championship held by Jaipur District Chess Association

POSITIONS OF RESPONSIBILITY

Department Placement Coordinator, Students' Placement Office, IIT Kanpur

Apr - Dec 2014

- Responsible for placement of 42 students from Department of Mathematics and Statistics within 1st week
- Facilitated interviews of students for Goldman Sachs and Accenture during campus placements

Head, Events, Techkriti - Annual Technical and Entrepreneurial Festival, IIT Kanpur Sep 13 - Mar 14

- Directed a 4-tier team of more than 200 members to accentuate the festival with budget of INR 13 Million
- Conducted 52 national and 7 international competitions and managed total prizes of INR 2.5 Million
- Accounted for registration, accommodation and security of more than 1400 participants during festival
- Collaborated for the first time with UNESCO to promote the social initiatives of Techkriti

Coordinator, 28 States - Flagship Social Initiative Event, Techkriti, IIT Kanpur Nov 12 - Mar 13

- Spearheaded a 3 tier team of 12 members to conduct a 4 round event aimed at highlighting social issues
- Publicized extensively and ensured participation of over 750 students and 300 essay submissions

Student Guide, Counselling Service, IIT Kanpur

Jul 11 - Apr 12

- Mentored 6 freshmen for their 1st year and assisted them in getting acclimatized to campus environment
- Monitored the orientation process of the undergraduate freshmen batch of 2011 consisting of 827 students

Coordinator, IDEAS - Flagship Business Plan Competition, Techkriti, IIT Kanpur Aug 11 - Feb 1

- Conducted India's one of the largest Business-Plan competition in 4 rounds with a budget of INR 300,000
- Directed a 3 tier team of 13 members and systematized more than 100 entries worldwide