Saumya Gurtu

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B.Tech. in Computer Science &
Master of Science by Research in
Computational Natural Sciences

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Examination	University	Institute	Year	CGPA / %
Graduation	IIIT Hyderabad	IIIT Hyderabad	2017	8.65/10
Intermediate/+2	Step By Step High School, Jaipur	CBSE	2012	89 %
Matriculation	Jaipuriya Vidyalaya, Jaipur	CBSE	2010	10/10

ACHIEVEMENTS

- Attended the **Google Test Automation Conference**, an annual test automation conference hosted by Google at Sunnyvale, US with a scholarship — [2016]

- Listed in **Dean's Merit List** for good academic performance in Monsoon 2013, Spring 2014, Monsoon 2015 and Spring 2016 with 9+ CGPA — [2012-16]

- Listed in **Research List** for good research performance — [2016]

- Attended the **Google I/O Conference** at San Francisco, US with a scholarship — [2015]

- Received **special prize** for 'No Crimes', a complaint filing application, **in hackathon** in collaboration with GDG – Geek Girls, WoW and OSDG — [2014]

- Selected in state wise top 1% candidates in **National Standard Examination in Astronomy (Jr.)** — [2009]

- Secured **State Rank 1 in National Talent Search Examination (NTSE),** scholarship exam organized by NCERT, New Delhi - Link — [2008]

WORK EXPERIENCE

- **HackerRank, Bangalore |** *Software Developer Intern* [May'15–Jul'15]
  - Worked on tasks related to products – **HackerRank for Work** and **Codepair**
  - Enhanced experience in **Ruby on Rails 4, Firebase, JavaScript and others**
  - All **deliverables went to production** on time and raised **100+ users** in just one week

- **Google Summer of Code |** *Open Source Developer -* **Systers, Anita Borg Institute** [Apr'14-Aug'14]
  Ruby on Rails Photo Language Translation project
  - A picture-dictionary web application for **Peace Corps US** to develop local languages which have no written script like Chuukese language in Micronesia - Google Melange Project Link
  - Selected in 1307 students from 72 countries for project proposal and development in 2014
  - Contributors help in uploading pictures of objects and help in adding data. Volunteers manage membership of contributors and help in English translation of pictures. Site administrator manages all records of a particular site.
  - **Mentors:** Rose Robinson (Systers' Keeper Atlanta), Ana Cutillas, Pamela Vickers (Rails Girls Atlanta), Sylvain Abelard(Rails Girls Paris)
  - **Learnings:** making milestones and time-line for project, presenting demos to clients, preparing documentation for the application users and managers, unit and integration testing for application, good etiquettes of mailing lists and working with a mentor team consisting of people from different time zones

- **No Crimes |** *A complaint filing application* | Team of 4 [Jan'14]
  GDG - Geek Girls, WoW and OSDG Hackathon (won special prize)
  - Built a website with the purpose of instant access to nearby police departments' and related NGOs' records to identify safe-dark zones in a city - Link
  - Filed criminal complaints are listed in detail and crime locations are marked on the map, users are allowed to sign petitions for the registered complaints to increase credibility

POSITIONS OF RESPONSIBILITY

- **Google Summer of Code |** Mentor [2015-16]
  Mentored university student developers for an open source project on Ruby on Rails - Link1, Link2

- ➢ **IIIT Hyderabad |** Teaching Assistant (T.A.)   [2014-16]
  Provide services as a TA for Computer System Organization and Computer Programming and General Structural Chemistry courses
- ➢ **IIIT Hyderabad |** Research Assistant (R.A.)   [2015]
  Provided services as a RA in VLEAD Lab for a month
- ➢ **Systers (Anita Borg Institute) |** Volunteer   [2014]
  Helped in preparing the task list for GSoC'14 project for all the students **at Grace Hopper Celebration'14 (GHC)** attendees at Open Source Day - Link
- ➢ **Ashakiran, IIIT-H |** Teaching Volunteer   [2014-15]
  Organize tutorials for poor kids

TECHNICAL SKILLS

- ● **Platforms**: Linux (Ubuntu, Fedora), Windows
- ● **Languages**: C, C++, Python, Basic Java, Ruby
- ● **Web Development**: Web2py (intermediate), Ruby on Rails 4 (intermediate), CSS, HTML, JavaScript
- ● **Database**: MySQL
- ● **Coursework**: Data Structures, Computer Programming, Algorithms, Database Systems, Operating Systems, Networks, Optimization Methods, Distributed Systems, System and Network Security, Game Theory for Computer Science, Statistical Methods in Artificial Intelligence, Structured System Analysis & Design, Graphics, Principles of Information Security, Formal Methods, Mathematics, Digital Logic & Processors
- ● **Experience with**: APIs with Rails, Firebase, Bash scripting, ARM, CoffeeScript, Octave, LATEX, SVN, Git, Gnuplot, OpenGL, Ace editor
- ● **Interests**: Algorithmic trading, Machine Learning, Artificial Intelligence

PUBLICATIONS

- • **Asian International Symposium of CSJ 2016**: The published work was discussed in the keynote lecture of the 96th annual meeting of the Chemical Society of Japan   [2016]

- • **Published first author paper:** Gurtu, Saumya, et al. "Ability of density functional theory methods to accurately model the reaction energy pathways of the oxidation of CO on gold cluster: A benchmark study." *Theoretical Chemistry Accounts* 135.4 (2016): 1-12 – Link   [2016]

PROJECTS

- ➢ **Study of Road Network Reliability of Mizoram, India |** *Project Leader | Team of 3*
  - ● Connectivity reliability is the ability of urban road network to maintain their connectivity and the network after being or suffering from a certain level of destruction
  - ● Used centrality measures of network theory
  - ● **Purpose**: To find reliable road transportation system in a disaster prone state like Mizoram for faster Rescue and Relief operations
- ➢ **Monitored Gangotri Glacier using NASA LANDSAT series satellite datasets |** *Team of 3*
  - ● The potential of the satellite remote sensing was explored for monitoring the Gangotri glacier for years 1993, 2003 and 2014 and the results showed decrease in glacier area during last 20 years.
  - ● NASA Landsat series satellites 5, 7 and 8 data sets were used
  - ● New approach was proposed for classification based on Normalized Difference Vegetation Index (NDVI), NDWI (for water mask) and NDSI (for snow mask) and the results were compared with the results of other Statistical Methods in Artificial Intelligence
- ➢ **University Post-Graduate (PG) Thesis Portal** using Web2py framework **|** *Project Leader | Team of 3*
  - ● Designed a portal to automate the proceedings of thesis evaluation process
  - ● Forms and thesis submission by MS/Dual Degree/PhD student, then the approval and rejection process by guide, external/internal examiners and Dean R&D of the institute, generating presentation and defense dates and generating reminder emails.
- ➢ **Relational Database Application for a camera store**
  - ● Designed and developed using Web2py, python & MySQL
  - ● To maintain data records of inventory, transactions, billing, customers, employees, etc for the company
  - ● Different user roles and interfaces for each user category - employee, administrator, customer
  - ● Data analysis for specific operations
- ➢ **3D game: Fossil Park Ride using OpenGL |** *Team of 2*
  - ● The player riding a motorbike through the rocky park collects as many fossils as possible within a given time limit to gain points