Saksham *Sharma*

Computer Science and Engineering
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WORK EXPERIENCE

Accuracy Improvement of Expressions
Max Plank Institute for Software Systems, Germany
Fellowship, under Dr. Eva Darulová   May'16-July-16

- Developed and evaluated a Scala tool to rewrite mathematical floating-point expressions and increase their accuracy using a genetic algorithm
- Obtained successful results, improving expression errors by ~50%, for scientific and embedded uses.

Full Stack Developer   May'15-Present
NYC Office IIT Kanpur, Prof. Manindra Agarwal

- Adjudged as one of the best interns as a freshman
- Implemented various features in a large scale polyglot web application with an extensive technology stack in a team setup (Phabricator, Git)
- Continue coding, as a full-stack developer; managing the search component using Node.js, Scala, ElasticSearch, TypeScript, Haskell

PROJECTS

moVi: Mobile Video Protocol   Sept'16-Now
Prof. Sandeep Shukla

- Developing a UDP based video communication protocol robust to network, IP changes.
- Using stateless UDP and a custom video synchronization protocol to ensure reliability, security.

Anonymous secure pair-matching   Oct'16-Now
Prof. P. Kurur, Prof. S. Nandakumar

- Designed, implementing an algorithm for secure, anonymous matching of couples, where end users put zero trust in the server (admin) and it's code.
- Using secure two party computation and oblivious transfer to ensure confidentiality and integrity.

HTTP-Over-Protocol: Web proxy   Aug '16
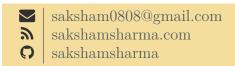Prof. Sandeep Shukla

- Proxy for bypassing proxy restrictions by wrapping arbitrary data in HTTP packets.
- Top 5 on Github trending (C++) for 2 days

Badminton playing robots   Oct'14-Mar'15
ABU Robocon '15, Prof. Bhaskardas Gupta

- Built 2 semi-autonomous full-size badminton playing bots using Image-processing, Kinect and Stereo Vision to track, predict shuttle path
- Overall 11th among 85 teams in national round

Microsoft code.fun.do hackathon   Jan, Sept '15
Two time winner, IIT Kanpur

- An app to parse, plot implicit mathematical graphs
- Platform to learn coding, using an online judge

EDUCATION

2014–Now	**Bachelor of Technology** IIT KANPUR ***CGPA: 10.0/10.0***

AWARDS AND ACHIEVEMENTS

Now	**Institute Rank 1, IIT Kanpur** *CPI: 10.0 in 4 Semesters*
2015	**Academic Excellence Award** *IIT Kanpur, 2014-2015*
2014	**All India Rank 10** *JEE Mains, 1.5 million candidates*
2014	**All India Rank 138** *JEE Advanced, 150,000 candidates*
2014	**Aditya Birla Scholarship** *Among 15 top students from all IITs*
2014	**National Merit, Overall 97.6%** *Grade 12 National Examination, CBSE*
2013	**KVPY Scholarship awardee** *Scholarship by IISc, Govt. of India*
2010	**National Talent Search (NTS)** *Scholarship by Govt. of India*

COURSEWORK

Data Structures and Algorithms	A*
Computer Organization	A*
Introduction to Programming	A*
Tools for Computing	A*
Computer Systems Security	A
Discrete, Abstract maths, Logic	A
Computer Networks	i
Operating Systems	i

A*: grade for exceptional performance i: Current

TECHNICAL SKILLS

LANGS	C, C++, Python, Node.js, Scala
WEB	Express, Akka, JavaScript, Angular
UTILS	Emacs, Vim, Linux utils, Git, Docker, Kubernetes, GDB, ElasticSearch

MISCELLANEOUS

- **Blog** about networks, coding at acehack.org
- Contribute to **Open Source** on Github
- **Coordinator** of Programming Club, InfoSec IITK, organize contests, CTFs, lectures (pclub.in)
- Administer **servers** in IIT Kanpur; deploying, automating services for campus community
- Microsoft Build The Shield, National 10th in the final round of **CTF**