Saksham Sharma

Computer Science and Engineering
3rd year UG, Bachelor of Technology
Indian Institute of Technology Kanpur

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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   Aug'16-Now
Undergraduate Project, 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 platform
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 homomorphic two party computation (aided by an non-trusted server) and asymmetric encryption to ensure confidentiality and integrity.

HTTP-Over-Protocol   *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

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

Microsoft code.fun.do hackathon   *Winner twice*

- An app to parse, plot implicit mathematical graphs
- National *5th* in Finals Coding milestone. Platform to learn programming, on a self made online judge

EDUCATION

2014 – Now	**Bachelor of Technology**
	IIT KANPUR
	*CPI/**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

C/C++, Python, Node.js, Scala, Haskell

WEB	Express, Akka, JavaScript
O.S.	Gentoo, Arch Linux, Ubuntu
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