

# Yash Srivastav

SENIOR UNDERGRADUATE · COMPUTER SCIENCE AND ENGINEERING

Indian Institute of Technology, Kanpur

(+91) 705-413-3662 | yash111998@gmail.com | yashsriv.org | yashsriv | yashsriv

## Educational Qualifications

Year	Degree	Institution(Board)	CGPA/%
July'15 – June'19 (expected)	B.Tech, CSE	Indian Institute of Technology, Kanpur	9.1/10.0
2015	AISSCE – XII	Birla High School, Kolkata (CBSE)	96.6%
2013	ICSE – X	AG Church School, Kolkata (CISCE)	96.6%

## Scholastic Achievements

- 2015 **All India Rank 105**, JEE Advanced (amongst 120,000 candidates)
- 2015 **All India Rank 288**, JEE Main (amongst 1.3 million candidates)
- 2015 **All India Rank 12**, KVPY Scholarship

## Work Experience

### New York Office, IIT Kanpur

FULL STACK DEVELOPER, PROF. MANINDRA AGRAWAL

India

May 2016 - Present

- Summer Intern continued as a volunteer & peer mentor.
- Worked on a scalable web application with an extensive technology stack using Postgres, Couchbase, Kafka, etc.
- Implemented Notifications, XSRF & XSS Protection and batch processing of api requests in the backend API.
- Integrated ProseMirror into an existing Angular App
- Reimplemented an entire Angular application as per the redux architecture for easy extensibility and modularity.
- Technologies used: Scala with Akka, Couchbase, Angular with TypeScript, Redux

### New York University

SUMMER INTERN, PROF. JUSTIN CAPPOS

New York City, USA

May 2018 - July 2018

- Worked on setting up an one-shot ansible project to enable organizations to easily set up debian package rebuilding infrastructure for independent verification of packages.
- Implemented three different microservices to orchestrate the entire setup and seamlessly display results via an API. A builder to rebuild the packages, a visualizer to expose all the metadata & buildinfo and a scheduler to schedule building of packages.
- Interacted with the reproducible-builds community to get feedback and design decisions approved.
- Added support for ed25519 cryptographic keys to the supply chain security framework - in-toto.
- Technologies Used: Ansible, Python, Perl, debian build tools

### Google Summer of Code

OPENPRINTING, THE LINUX FOUNDATION

Summer 2017

- Worked on the Common Printing Dialog Project.
- Allows easy integration of any new printing systems into existing applications implementing the interface.
- Helped design the Dbus API and decide its usage.
- I worked with dbus and implemented the frontend print dialogs to the dbus interface in Libreoffice codebase.
- Technologies Used: Dbus, C++, CUPS, Google Cloud Printing

### Localites

FULL STACK DEVELOPER

Freelance

Dec 2018 - Apr 2018

- Worked on a web application using the MERN stack.
- Rewrote the entire nodejs server in typescript with unit testing in jasmine for type-checking and code reliability.
- Also rewrote react app into an NgRx based angular app for better code organization and structure.
- Technologies Used: MongoDB, React, NodeJS, Angular

## Skills

**Proficient** C, Golang, Python, Javascript  
**Experienced** C++, Java, Scala, Android  
**Exposure** Haskell, Rust, Dart, Perl  
**Frameworks** Express.js with Node.js, Akka with Scala, JavaScript, TypeScript, Angular, Redux, Flutter  
**Utilities** Linux shell utilities, Git, Docker, Ansible, Postgres, MongoDB, OpenCV, L<sup>A</sup>T<sub>E</sub>X, Vim, Emacs, vagrant

## Relevant Courses

Introduction to Programming(A*)	Discrete Mathematics	Computer Organization
Computer Architecture	Data Structures and Algorithms	Probability & Statistics(A*)
Computing Laboratories - 1(A*)	Computing Laboratories - 2(A*)	Compiler Design
Functional Programming(A*)	Computer Systems Security	Computer Networks(i)
A*: Grade for exceptional performance	i: In progress	

# Projects

---

## Dashboard Web Extension/App

*github://yashsri/beethoven*

INTER IIT TECH MEET

*February, 2017*

- Involved creating a web extension which acted as a user's home page and helped display all the information relevant to a student studying in IIT Kanpur in a main Dashboard. (News, Events, Student Search, Share Auto)
- Server Side was implemented as multiple **microservices** in various languages (Golang, Python, NodeJS) involving IPC via **JSON RPC**.
- Fully **Dockerized backend** running on a docker-compose setup. Written with **scalability** and speed in mind.
- Judged **1<sup>st</sup>** among all IITs participating in the competition.

## ABU Robocon 2016

*IIT Kanpur*

MEMBER, TEAM ROBOCON IIT KANPUR, PROF. BHASKARDAS GUPTA

*Oct'2015 - Mar'2016*

- An autonomous robot, which did not contain a driving actuator had to traverse a game field using energy provided to it by another robot in form of a non contact force.
- Was involved in **Image Processing** used in the autonomous robot for **color detection** and **line following** to traverse the arena.
- Came **3<sup>rd</sup>** out of 105 teams in Nationals at Pune, India.

## Smart Mirror

*Best Applicable Project*

PROGRAMMING CLUB

*Summer'2016*

- Built an **IoT Mirror** with an RPi and a display fitted with a 75% reflecting mirror.
- The mirror had features such as weather forecast, calendar and pushbullet notifications of a user (determined via face identification).
- I was involved in integrating Google Calendar notifications and Face Identification using Microsoft's Project Oxford API.
- Received **Best Applicable Project** amongst all summer projects under the Science and Technology Council, IIT Kanpur.

## Reversi Game in Python

*IIT Kanpur*

ASSOCIATION OF COMPUTING ACTIVITIES

*2<sup>nd</sup> Semester*

- Developed a Python Application using **Pygame** for 2 player as well as single player Reversi gameplay.
- Uses the **negamax algorithm** with an efficient heuristic check for better performance against humans.
- Mid Semester project under the Association of Computing Activities (ACA), IIT Kanpur.
- Link: [github.com/yashsri/Reversi-Python](https://github.com/yashsri/Reversi-Python)

## tango (golang to x86 assembly)

COURSE PROJECT, COMPILER DESIGN

*Jan'2018-April'2018*

- A compiler for go written in go in a team of 3. Compiles from go to x86 assembly.
- Supports a subset of the go language including nested pointers, type checking, recursion, nested arrays, structs, methods and other common programming language features.
- Added a new for comprehension syntax as well to go.

## Branch Predictor

*Best Predictor*

COURSE PROJECT, COMPUTER ARCHITECTURE

*April'2018*

- Designed a branch predictor for an intra-class branch prediction championship based on the CBP-1 framework in a team of 2.
- Created a modified GEHL predictor with an additional loop predictor.
- Was adjudged the **best predictor** amongst all submitted.

## Connect 4 AI in haskell

*Functional Programming*

COURSE PROJECT

*Jan'2018-April'2018*

- A GUI based connect 4 AI in haskell.
- Had support for various difficulties and the AI was abstracted out in order to be able to support any complete knowledge two player game.

## Code.Fun.Do

*Microsoft India*

24 HOUR HACKATHON

*Sept'2015*

- Developed an App to help connect teachers and learners based on their preference of subjects.
- Used cross-platform **Universal App Platform** for Windows 10 and a server written in C#.
- Was selected as one of the **best five ideas**.

## go-nachos

*Ported nachOS to golang*

SELF PROJECT

*Dec'2017*

# Positions of Responsibility

---

- **Head, Web, Antaragni 2017**
- **Coordinator, Programming Club, IIT Kanpur 2017-18**

# Miscellaneous

---

- Exploited and patched the zooar server as part of Computer Systems Security Course
- Developed an android app which was a Websocket Client for a Websocket Server hosting a multiplayer game
- Contribute to Open Source projects like pdf.js and thelounge
- Won Fresher's Science Quiz in inter-hall annual competition
- Among the top 15 teams of India in CSAW 2016, CTF

- Mentored 6 students in building a chat application using nodejs and websockets as an Semester Project