

EXPERIENCE

Google Summer of Code Student	Mozilla Firefox	May 2018 - August 2018
<ul style="list-style-type: none"> Implemented a mechanism to prevent multiple downloads from bombarding the Firefox browser Blog : http://sagarb-97.github.io/Download-Spam-Protection-Blog/ 		
Software Engineering Intern	Intuit India	May 2018 - July 2018
<ul style="list-style-type: none"> Built a real time data pipeline to consume, store and analyze real time database operational metrics Used open source tools like <i>Apache Kafka</i>, <i>Druid</i> and <i>RabbitMQ</i> to build the project infrastructure from scratch 		
Software Engineering Intern	Samsung India, R&D	May 2017 - July 2017
<ul style="list-style-type: none"> Unified Time Division Duplex (TDD) and Frequency Division Duplex(FDD) code bases written for Shannon chipsets and achieved 30% code size reduction using <i>C parser scripts in Perl</i> 		

EDUCATION

B. Tech	National Institute of Technology Karnataka	2015 - Present
<ul style="list-style-type: none"> Major in Computer Science. Senior year. CGPA : 9.39/10.00 (January 2019). Relevant Courses: Data Structures and Algorithms, Computer Organization and Architecture, Operating Systems, Object Oriented Programming (C++), Computer Networks, Concrete Mathematics, Database Management System, Heterogeneous parallel computing, Compiler design 		

PUBLICATIONS

- Automated Recognition and Processing of Handwritten Mathematical Equations**, In proceedings of IEEE 4th International Conference for Convergence in Technology (I2CT 2018)
- Blockchain Research and Applications: A Systematic Mapping Study**, In proceedings of Springer IETE International Conference on Blockchain Technology (IC-BCT 2019)

SELECTED PROJECTS

ALL PROJECTS ON [GITHUB](#)

- CollabIt:** Prototype of a peer to peer system that acts as a trustless marketplace for buying and selling computation resources. Based on *Blockchain*. <https://github.com/SagarB-97/ColabIt>
- EYantra Snakebot:** Team of 4 designed, 3D printed and programmed a snake robot for a *national level* robotics competition. Positioned 1st out of 200+ participating teams <https://github.com/SagarB-97/EYantra-Snake-Robot>
- Handwritten Equation Solver:** An application to solve handwritten mathematical equations using deep learning algorithms. <https://github.com/Handwritten-Equation-Solver/Handwritten-Equation-Solver>
- Low rate TCP DoS Attack:** Simulated a Low-Rate TCP DoS Attack in ns-3. Achieved by exploiting RTO in congestion control algorithm implemented in TCP Reno <https://github.com/SagarB-97/Low-Rate-TCP-DoS-Attack>
- Sparse Matrix Vector Multiplication:** An implementation of a parallel algorithm for Sparse-Matrix-Vector-Multiplication (SpMV) in CUDA. The novel algorithm beats the state of the art implementation in the standard cuSparse library for certain inputs <https://github.com/SagarB-97/Sparse-Matrix-Vector-Multiplication>
- OS Simulator:** A web app that simulates various functions of an Operating System. It is built using the Django web framework and uses Python for backend calculations. <https://github.com/OS-Simulator/OS-Simulator>
- Online Quiz Platform:** Developed a full stack platform using nodejs to automate and hasten the process of setting, attempting and evaluating tests in colleges. <https://github.com/SagarB-97/Online-Quiz-Platform>
- Parallel Programming:** Parallelized a number of algorithms including Convolution, Image Blurring, Mono color conversion etc using CUDA. <https://github.com/SagarB-97/CUDACodes>

ACHIEVEMENTS

- Ranked **2nd** in India and **102nd** globally in **IEEEExtreme 11.0**, a 24 hours global coding contest
- Winner** of E-Yantra 2018, a national level robotics competition with 200+ participating teams from all over India
- Ranked **2nd** in India and **214th** globally in **IEEEExtreme 10.0**, a 24 hours global coding contest
- Ranked **1515** in India in JEE Mains 2015 out of *1.3 million candidates*. Percentile Score : **99.57**

INTERESTS AND ACTIVITIES

- Open Source Enthusiast.
 - Contributed many patches to **Mozilla Firefox**
 - Listed as one of the official authors of **SymPy**, a Computer Algebra system.
- Secretary of **Web Enthusiasts Club, NITK** - Restructured recruitment procedure. Organized a week long open source talk series.
- Executive Member of **IEEE NITK** - Mentored and completed projects spanning many areas of interest for 3 years
- Computer Science projects head, **Technites** (a technical fest), NITK