Shruti Agarwal

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B.Tech - Mathematics and Computing
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Education

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech	IIT Guwahati	8.89 (Current)	2017 - Present
Senior Secondary	Maharastra State Board	86.46%	2017
Secondary	Maharastra State Board	92.20%	2015

Experience

- **Google**   Bangalore, India
  SWE Intern, Google Docs Team   *May 2020 - July 2020*
  - Developed a Python library that takes VBA Form Storage as input, extracts all properties of the User Form and embedded ActiveX controls and stores it in a Protocol Buffer

Projects

- **Stock Viewer**   *Ongoing*
  Personal Project   *https://git.io/JJlAX*
  - Implemented microservice architecture based Stock Viewer which takes input stock name and returns quotation
  - Technology stack: Spring Boot, Spring Cloud, Eureka, Zuul
- **Network Simulation using ns-3**   *Apr 2020*
  Dr. Manas Khatua, Professor, Dept. of CSE, IIT-G   *https://git.io/JJlAo*
  - Implemented a point-to-point network with dumbbell topology using ns-3
  - Simulated and analyzed the effects of network bottlenecks with three TCP variants - Hybla, Westwood+, YeAH
- **Socket Programming - Relay based Peer-to-Peer System**   *Mar 2020*
  Dr. Manas Khatua, Professor, Dept. of CSE, IIT-G   *https://git.io/JJlAz*
  - Developed a relay-based P2P file exchange system (with client-server architecture) having relay server, peer nodes and peer clients using TCP socket programming in C
- **PintOS**   *Aug 2019 - Nov 2019*
  Dr. Arnab Sarkar, Professor, Dept. of CSE, IIT-G
  - Implemented the following for an instructional operating system framework - PintOS
    * Threads Module: Multi-level feedback queue scheduler and synchronisation primitives
    * User Programs: System call handler and system calls (exec, wait, read, write, etc)
    * Virtual Memory Management: Paging, stack growth, swapping, and page replacement
- **Just Buy**   *Apr 2019*
  Dimension Hackathon, Dept. of Mathematics, IIT-G   *https://git.io/JJlA3*
  - Built a website for IIT-G students to sell and buy pre-owned products
  - Features : Shopping cart, Product Search and Filter, Purchase Request Queue
  - Technology stack: Django, HTML, CSS

Technical Skills

- **Programming Languages:** C/C++, Python, MATLAB/Octave*
- **Web Technologies:** HTML, CSS, Django*
- **Database management:** MySQL, MongoDB*
- **Operating Systems:** Windows, Linux (shell utilities, git)
- **Miscellaneous:** Jupyter Notebook, LaTeX, Postman, Protocol Buffers   *Elementary Proficiency*

Key Courses Taken

- Databases (Theory + Lab)
- Operating Systems (Theory + Lab)
- Data Structures and Algorithms (Theory + Lab)
- Computer Networks (Theory + Lab)
- Financial Engineering - I & II (Theory + Lab)
- Probability Theory and Random Processes
- Monte Carlo Simulation
- Discrete Mathematics

Achievements

- **Department Rank 5** (current) in IIT-G Mathematics and Computing 2021 Batch
- **J.M.O 2014:** Bagged the silver medal and obtained the Kaprekar scholarship
- **M.T.S. Examination 2014:** Qualified for the state scholarship

Extracurricular Activities

- **Drawing:** Secured A grade in elementary and intermediate drawing examinations
- **Dancing:** Trained in Classical and Western dance forms with a television appearance
- **Singing:** Took music lessons for three years with multiple local concert performances and cleared two exams
- **Playing the piano:** Took piano lessons for five years