

# SIDHARTHA AGRAWAL

U.S. Permanent Resident (Green Card)

+1 - (786) 340 9713 | ✉ [agrawa96@purdue.edu](mailto:agrawa96@purdue.edu)

[agrawa96-sid.github.io](https://github.com/agrawa96-sid) | [in](#) [sidhartha-agrawal-purdue](#) | [agrawa96-sid](#)

## EDUCATION

- Purdue University-West Lafayette, Indiana, U.S.A. | Year: Junior** Aug '18 - May '22  
B.S. in **Computer Science** with minor in **Mathematics** GPA: **3.74 / 4.0**  
Certificate in **Entrepreneurship and Innovation**  
Dean's list **4 semesters**

**HARD SKILLS:** **C++** (Advance), **MySQL** (Intermediate), **Java** (Advance), **C** (Advance), **Python** (Advance), **HTML** (Intermediate), **BASH** (Intermediate), **R** (Intermediate), **JavaScript** (Intermediate)

**SOFT SKILLS:** Strong Work Ethics, Positive Attitude, Time Management Ability, Good Communication Skills, Quick Problem-Solving, Quick learner

**COURSEWORK:** Analysis of Algorithms\*, Data Mining and ML\*, Systems Programming, Computer Architecture, Programming In C, Foundations Of CS, O-O Programming, Introduction to Probability\*, Introduction To Statistics

## WORK EXPERIENCE

- Undergraduate Research Assistant | Purdue University | Virtual (COVID-19 Pandemic)** May '20 - Present  
-Worked under the mentorship of **Prof. Berkay Celik** on a **Sandia backed project** that aims to develop tools to **generate realistic** network traffic and system events for Cyber Experimentation within Minimega VM(s)
- Undergraduate Teaching Assistant | Purdue University | Virtual (COVID-19 Pandemic)** June '20 - Present  
-Assisted students taking CS252 (Systems Programming) course at Purdue by providing in-lab assistance  
-Held office hours and monitored the online forum **Piazza** to address doubts and help with **debugging**
- Teacher | Purdue Undergraduate Student Board | West Lafayette, Indiana** May '19 - Present  
-Tutored freshmen and sophomore students majoring in Computer Science with their coursework  
-Improved their understanding of concepts by guiding them to solve **LeetCode** coding problems

## PROJECTS

- SETGen - System Events and Traffic Generator**  
An all-in-one tool using **Python** and **BASH scripting** that automates Minimega VM creation, generates both Intra-VM and Inter-VM network traffic, generates system events, etc. Wrote multiple scripts and **modeled** them to **emulate realistic user behavior** using tools like **Selenium**, **Wireshark**, **D-ITG**, etc.
- GETweb**  
A **multi-threaded** **HTTPS server** using **C++** that services **GET requests** and maintains server log. Integrated features like handling **CGI requests** and **web-browsable directories** with sorting options.
- MeSHELL**  
An Unix shell using **C++** that uses **Bison Grammar** to interpret the CLI input and service the requests with features like **wildcarding** and **subshell**. Integrated a text-editor using **C** to browse through **historical** commands and **edit** the CLI request.
- MemALC**  
A **DLMalloc** inspired memory manager using **C** that allocates and deallocates memory similar to **malloc()** and **free()** in C.
- SoRTViZ**  
A simple visualizer using **JavaScript** for six familiar sorting algorithms like Bubble Sort, Insertion Sort, Selection Sort, etc. Combined features like controlling speed and counter for swaps.

## LEADERSHIP ACTIVITIES

- School Publication Captain | Kendriya Vidyalaya | Kathmandu, Nepal** Apr '17 - Apr '18  
-Led the School Publication Club and had discussions with members aiming to increase school magazine readers  
-Implemented a new idea of publishing quarterly e-Newsletters that resulted in **8%** audience growth

## VOLUNTEERING

- Volunteer | Shree Panchkanya Basic School | Kathmandu, Nepal** Dec '18 - Jan '19  
-Volunteered as a part time teacher to teach Mathematics and Computer Science to the students from grade 9  
-Created a student database using **C** with **AWS S3** cloud support for the school