

ABHISHEK GUNASEKAR

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EDUCATION

B.S. in Computer Science Honors - Purdue University, Expected Graduation May 2022

- Featured Coursework: Data Structures & Algorithms (CS 251), Systems (CS 252), OOP (CS 180)
- GPA: 3.97/4.00

Dean's List and Semester Honors - Purdue University, August 2019 - Present

SKILLS

Programming: Java, C, C++, R, Python, Shell Scripting, x86_64 Assembly Language; **Web Dev:** HTML, CSS, JavaScript
Technologies: Git, GitHub, Vim, Unix, Bash, GDB, Flexbox, Bootstrap 4; **Languages:** English, Tamil, Hindi

INDUSTRY EXPERIENCE

Software Engineering Intern - Bayer, Fall 2019

- Collaborated to analyze phenotype data using **R** to devise efficient crop health management strategies.
- Developed a matrix based recommender system to predict yield pattern of crops at **~95% confidence level**.
- Spearheaded interdisciplinary seminars and engaged in project based learning for **R, data visualization, and bash**.

Information Technology Intern - Jensen Investment Management, Summer 2019

- Worked with Jensen's Operations team on a project which involved structuring **stock market data**.
- Utilized Python's third party libraries such as **openpyxl** and **xlrd** to parse CSV and EXCEL files.

ACADEMIC EXPERIENCE

Teaching Assistant - Data Structures & Algorithms (CS 251), Fall 2020 - Present

- Constructed weekly PSO videos to demystify **Stack, Queue, Heap, Red- Black Trees**, and other data structures for students.
- Helped professor with grading assignments of **400+** students, and created challenging problems for learners.

Help Room Tutor - Purdue Undergraduate Student Board (USB), Fall 2020 - Present

- Mentored incoming freshman transition to the CS Department at Purdue University.
- Conducted weekly review sessions to explain tough concepts in **CS193 (Tools)**, **CS180 (Java)**, **CS182 (Discrete Math)**, and **CS240 (C)**.

PROJECTS

Malloc Implementation Project - Systems Programming, Fall 2020

- Developed my own memory allocator, which allows users to **malloc()** and **free()** as needed.
- My allocator requests large chunks of memory from the **OS**, and manages all the bookkeeping and memory efficiently.
- Inspired from the **DLMalloc** allocator designed by **Doug Lea**.

MIDI File Project - Purdue University, Spring 2020

- Recreated a rudimentary music library with associated analysis and adjustment tools.
- Designed main applications using file IO and dynamic data structures (i.e. trees, lists) in **C**.
- Adapted the **GTK Gnome Developer API** in order to build the UI.

LEADERSHIP

Board Member of

- Association of Computing Machinery (ACM)
- IEEE Computer Society
- Web Development Club