Email: anubhav.4.sen@gmail.com
Home Address: Norristown, PA
Phone: (484) 705-9666

ANUBHAV SEN

GitHub:
https://github.com/asen4

Personal Website:
https://asen4.github.io

EDUCATION

Bachelor of Science in Computer Engineering
The Pennsylvania State University, University Park, PA — Graduation: May 2026
College of Engineering | Schreyer Honors College — Cumulative GPA: **3.92/4.0**

TECHNICAL SKILLS

- Proficient: Java, Python, Dash, Android SDK, Android Studio, Google Firebase, XML, Verilog
- Intermediate: C, SQL, Git, JavaScript, NodeJS, MongoDB, React Native, Shiny

WORK EXPERIENCE

Global Data Operations Intern @ Merck Sharp & Dohme — **June 2024 – August 2024**

- Developed a dashboard to centralize data management automation tools for use by the rest of data managers.
- Simplified the execution of Python automation scripts with a button click, garnering strong support from users possessing little to no programming experience and effectively eliminating any learning gaps.
- Incorporated Dash framework and collaborated with IT department to get AWS server access for deployment.

Computer Science Grader & Learning Assistant (LA) — **January 2023 – May 2024**

- Coached students by facilitating 2 recitations (**100+ students**) and holding **6 hrs** of 1:1 tutoring on weekly basis.

SOFTWARE DEVELOPMENT PROJECTS

React Native Development — **May 2023 – Present**

- ***Nittany Retails***: e-commerce (JavaScript-based) mobile application — **August 2023**
  - Hosted NodeJS backend server and connected it to MongoDB database to store user data effectively.
  - Incorporated Stripe API to handle payment processing methods in order to generate internal revenue.

Android Application Development — **August 2019 – Present**

- Published **3 Android (Java-based) mobile applications** to Google Play Store that have a growing user base – currently exploring how to increase user engagement and improve feature development.
- ***Smart Planner***: digital student planner application — **July 2022**
  - Integrated AgendaCalendarView to get a CalendarView template and Picasso library to display images.
  - Optimized scrolling performance in posts and messages list by using a RecyclerView to "reuse" layouts and populate views with the appropriate data, stored securely in Firebase Realtime Database.
- ***TalkZone***: video-calling/casting media application — **October 2021**
  - Improved upon multiple features from *TagOut!* such as various file type messaging, phone number authentication, and user interface (UI) design by following Google Material Design UI guidelines.
  - Integrated the Jitsi Meet SDK (an external instant messaging and video conferencing application) to initiate calls and the Google Cast SDK to seamlessly transmit playback from the device to the TV.
- ***TagOut!***: social media application — **July 2021**
  - Implemented Firebase Authentication for Google sign-in and registering users with other email domains.

Video Game Development — **August 2018 – August 2019**

- Built clones of classical arcade games like *Angry Birds*, *Flappy Bird*, *Snake*, and *Tetris* using Pygame.

RESEARCH EXPERIENCE

Theory and A Heuristic for the Minimum Path Flow Decomposition Problem — **July 2023 – Present**

- Investigating decomposition of a directed cyclic graph such as to minimize the number of path sets between all sink and source nodes; applying theories from a working model available on DAGs from professor's research.
- Building an operation to transform graph and make 2 distant edges adjacent to help find all possible *s-t* paths.

AI for Politics — **November 2022 – May 2024**

- Predicted future US election results by scraping **10K/day** political tweets using Twitter API, separately classified each one based on political leaning with NLP methods, and created a heat map of US to visualize the results.

LEADERSHIP/ACTIVITES

AlgoPSU Director — **January 2023 – Present**

- Mentor **25 students** on abstract data structures and walk through LeetCode questions to reinforce concepts.

Java: A Comprehensive Guide (Parts I & II) — **October 2021 – August 2022**

- Authored and published a two-part written guide to the fundamentals and advanced theories of Java; only available on Amazon as Kindle eBook, hardcover, and paperback.