Debashish Roy

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Education

- **International Institute of Information Technology** — Hyderabad, India
  Master of Technology in Computer Science and Engineering — *Aug. 2021 – 2023 (Expected)*
- **Jabalpur Engineering College** — Jabalpur, India
  Bachelor of Engineering in Information Technology; GPA: 8.12/10.0 — *Aug. 2016 – July. 2020*

Experience

- **Google Summer of Code at NRNB**
  Software Engineer Intern — *June 2020 - Aug 2020*
  - **Plugin Loader System**: Modified existing plugins which are used to work in old architecture to the new architecture, such that they will be independent of libRoadRunner(host).
  - **Simplified development of New Plugins**: With the new system, users can develop C++ plugins without considering rebuilding the whole system, which is not the case in the earlier version.
- **Google Summer of Code at NRNB**
  Software Engineer Intern — *May 2019 - Aug 2019*
  - **Integration of LibRoadRunner and RRPlugins**: Integrate RRPlugin and Libroadrunner, also worked on the idea of using differential evolution optimizer for Libroadrunner to speed up the optimization process.
  - **Decreased Build Time**: Decreased build time as well as configuration time by integrating both the packages in C++. It accelerated build time by 25%. It eases the overall build process and increases the throughput.

Achievements

- **JEST (Joint Entrance Screening Test)**: Achieved AIR 70 in JEST 2020 Theoretical Computer Science.
- **ACM International Collegiate Programming Contest**: Selected for the ACM ICPC Regional, Amritapuri.
- **CodeChef**: Secured rank 164 out of 12343 participants in Codechef challenge organized globally, 5-star rating.
- **Google Code Jam and Facebook Hackercup**: Cleared Google Code Jam round and Facebook Hacker cup contest.
- **Merit Certificate by the CBSE and Government of India**: Merit Certificate by CBSE for special achievement in the 10th Board examination and Ministry of communication and IT Govt. of India.
- **KVS National Chess Competition**: Selected for the KVS Chess National Competition in 2015 and 2016.

Projects

- **Chess Engine**: AI-based chess program to play chess using C++ based on exploring the states and alpha-beta pruning.
- **Introsort**: Sorting a large amount of data using C++ by the Introsort (Hybrid Algorithm), combination of Sedgewick's quick sort, heap sort & insertion sort are based on the depth of the call stack. C++ sort() uses the same algorithm.
- **Desktop Assistant**: It can perform an online search, play video & audio, tell time, open editor, extract information about search keywords from Wikipedia, etc., using Python and speech recognition library based on voice commands.

Programming Skills

- **Technical Skills**: C++, C, Python, Bash, JavaScript, HTML, CSS.
- **Software & Environment**: CMake, SWIG, Git, Linux(Debian) Distribution, Windows.

Special Courses

- **AI Search Methods for Problem Solving**: Some of the key insights are DFID, State Space Search, Heuristic Search: Best First Search, Hill Climbing, Population-Based Search: Genetic Algorithms, Ant Colony Optimization.
  Game Playing: Algorithms Minimax (NPTEL 12 week program).

Contribution and Leadership

- **Contest, So you think you can Code**: Organized competitive programming contest in the college. It introduces 300+ students to the world of competitive coding. Took initiative and advocated for the culture of open source and competitive programming.

Interests

- Problem Solving (Codechef, Codeforces, Leetcode), Open Source, AI Search Methods for Problem Solving.