Deepank Agrawal

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GitHub profile: Deepank308

C/C++, Python, JavaScript, Scala, Java, Bash

Education

- **Indian Institute of Technology Kharagpur** — West Bengal, India
  B. Tech + M. Tech in Computer Science and Engineering; CGPA: 9.42/10.0 — *July, 2017 – May, 2022(expected)*
- **Trident Public School** — Muzaffarpur, India
  Senior School Certificate Examination, CBSE; Percentage: 92% — *June, 2015 – March, 2017*

Experience

- **EntHire** — San Francisco, CA
  Software Engineering Intern — *August, 2020 - September, 2020 & December, 2020 - January, 2021*
  - **Chrome Extension**:
    Designed and developed a chrome extension to provide EntHire's smart hiring feature for LinkedIn hiring page.
    Executed with 100% ownership and leaded the end-to-end API integration with the existing backend server.
    Played a vital role in expanding and strengthening the client base for EntHire platform.
    Tools: JS, Python, HTML5, CSS3, Node.js, jQuery, Webpack, Pyramid web framework
  - **Backend deployment**:
    Deployed production server using AWS Elastic Beanstalk and built end-to-end data pipelines.
    Restructured database wrapper code by reasoning method utilities and shifting to latest API methods.
    Tools: Python, AWS, MongoDB, MySQL, Pyramid web framework
- **University of British Columbia** — Vancouver, British Columbia
  Software Engineering Intern — *May, 2020 - July 2020*
  - ***VIPER* Program Verification**:
    Developed AST traversal logic for adding and modifying compile-time Scala generated VIPER elements.
    Reduces the time vested in Flows reasoning logic, from approx. 10 hours to an hour, for research experimentation.
    Tools: Scala, Software Verification, Compiler Design, Object Oriented Programming, Graph Reasoning

Projects

- **Simple File System**: Built a simple file system based on ext3 file system with an emulated in-memory disk in **C**.
- **Loadable Kernel Module**: Developed a simple interactive loadable kernel module that provides the functionality of a heap inside the kernel space. Handles concurrency, mutual exclusion, process & memory management, and IO-control.
- **Reliable Communication Protocol**: Developed a Transport Layer protocol **C** library to support loss-less UDP-based communication, built using UNIX signal handlers. Achieved 30% transmission efficiency against 50% drop probability.
- **UNIX Shell CLI**: Implemented a UNIX shell that runs on top of the Linux kernel. Includes features like forking, I/O redirection and pipe-lining of processes in **C++**.
- **CPU scheduler**: Implemented a virtual round-robin CPU scheduler using POSIX threads and simulated a synthetic producer-consumer job mix on the scheduler in **C++**.

Awards & Competition

- **Facebook Hacker Cup 2020**: Secured rank 592 in Round 1. Was among top 1742 candidates to qualify for Round 2
- **Google Kick Start 2020**: Secured rank 165 and 95 in Round B and D respectively, among approx. 9000 candidates
- **ACM ICPC 2019**: Ranked 50 at the Amritapuri Regionals. Ranked 51 among 4401 teams in the nation-wide prelims
- **IGVC 2019**: Part of the team which was first to qualify and finished as runners-up in the Auto-Nav challenge
- **JEE 2017**: AIR 15 among 1.4 million applicants in JEE Main. AIR 308 among 0.2 million applicants in JEE Advanced

Extra Curricular Activities

- **Sports Programming**: Solved over 600 programming problems and participated in over 100 online contests on various online judges like Codeforces, CodeChef, LeetCode. Codeforces handle: bitfrost01; CodeChef handle: deepank15
- **IEEE Image Processing Winter Workshop**: Mentored a week-long workshop on image processing organized for 1st and 2nd year UG students with over 150 applicants. Taught basic image processing techniques using OpenCV and C++. Successfully guided 2 students through their final workshop project.
- **National Service Scheme**: Worked as a volunteer helping local villagers in tree plantation, road construction. Participated in blood donation camp drives and also assisted in teaching local school children. Worked towards the betterment of nearby village - Gopali, coordinating with a team of 30 IIT Kharagpur students.