Chirag C Dasannacharya

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Education

Birla Institute of Technology and Science, Pilani — Rajasthan, India
Bachelor of Engineering in Computer Science — *CGPA - 9.51/10* — *2018 – 2022 (Ongoing)*

National Public School, Indiranagar — Bangalore, India
CBSE 12th Board Exam — *Score - 96.6%* — *2018*
CBSE 10th Board Exam — *Score-10.0/10* — *2016*

Interests and Skills

Domains of Interest: Graph Theory, Multi-Robot Systems, Distributed Systems, Computer Networks, Programming Languages

Programming Languages and Libraries/Frameworks: C, C++, Python, Java, Elixir, PostgreSQL, Verilog HDL; NumPy, Matplotlib, QT, Phoenix

Fields in which Courses Taken: Graph Theory, Algorithms, Networks, Programming Languages, Compilers, Operating Systems, Cloud Computing, Object Oriented Programming, Database Systems, Digital Design, Microprocessors, Computer Architecture, Theoretical Computer Science

Experience

Lab Research Assistant — January 2021 - December 2021 (Ongoing)
INSPIRE Lab, BITS Pilani — *Pilani, India*

- Studying and proposing strategies for unknown area exploration using multiple robots
- Simulating strategies for multi-robot systems using Player/Stage
- Implementing and evaluating 6 distinct strategies, as well as further variants

Summer Scholar / Industry Intern — May 2021 - July 2021
Nanyang Technological University / Datakrew Pte Ltd — *Singapore*

- Part of NTU Singapore's Connect program
- Development and testing involving the MADS IoT platform
- Worked with Elixir and the Phoenix framework

Undergraduate Research Intern — May 2020 – July 2020
Bhaskaracharya National Institute for Space Applications and Geo-informatics — *Gandhinagar, India*

- Implemented algorithms to obtain Land Surface Temperature (LST) from satellite images
- Developed a python plugin for the QGIS platform, using NumPy, GDAL, PyQT and more
- Developed a tool to get statistics on temperature-related data in an area, with estimated LST

Awards and Achievements

Institute Merit Scholarship — Mar 2020, Sep 2020, Mar 2021, Sep 2021
Awarded to top 3% of students each semester, 4 time awardee

International Linguistics Olympiad 2017 - Bronze Medal Winner — August 2017
Won a bronze medal representing India at the 15th International Linguistics Olympiad held at Dublin, Ireland

International Linguistics Olympiad 2018 - Participant — July 2018
Represented India at the 16th International Linguistics Olympiad held at Prague, Czechia

Projects

Multi-Robot Exploration | *Multi-Robot Systems, C++* January 2021 - Present

- Studied strategies and proposed 6 major algorithms and further variations to explore unknown areas using multiple robots
- Implemented the algorithms and evaluated their performance
- Explored further improvements and optimizations in path planning and other subtasks

Rectangular Floorplans | *Graph Theory, Python* July 2021 - Present

- Studied strategies to generate rectangular floorplans given a graph representing rooms and their adjacency relations
- Improved flexibility by relaxing constraints on input graphs by converting them into acceptable graphs for floorplan generation by existing algorithms
- Worked on generating multiple output floorplans through non-deterministic methods

Networking and System Projects | *Networks, File Systems, C* September 2020 - November 2020

- Simulated GFS (Google File System) GFS with metadata server, chunk servers and client mechanisms
- Simulated distributed merge sorting over stream sockets
- Implemented a concurrent TFTP server; developed a terminal shell, with piping and redirects

Graph Isomorphism | *Graph Theory, Python* August 2020 – December 2020

- Studied and implemented papers on random graph isomorphism
- Evaluated algorithm performance and explored improvements
- Proposed changes to increase reliability, without affecting time complexity

Interpreter | *Programming Languages, C* June 2020 – Present

- Developed a grammar for an imperative programming language, Blaze
- Writing an interpreter for the language, in C
- Implemented scanner, parser and interpretation of functions and namespaces

Extra-Curriculars

ACM Student Chapter - Member September 2018 - Present

Competitive Exams

Rank 199 - Graduate Aptitude Test in Engineering (GATE) - 2021 Feb 2021
Ranked 199th out of more than 102,000 candidates

Rank 1400 - Joint Entrance Exam (JEE) - Advanced 2018 May 2018
Ranked 1400th out of more than 150,000 candidates

Rank 775 - Joint Entrance Exam (JEE) - Mains 2018 April 2018
Ranked 775th out of more than 1,000,000 candidates

Personal Details

Interests and Hobbies: Economics, Strategy games, Game development
Languages Spoken: English, Hindi, Kannada, Tulu