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: Distributed Computing, Multi-Agent Systems, Graph Theory

Fields in which Courses Taken: Cloud Computing, Operating Systems, Computer Architecture, Algorithms, Graph Theory, Networks, Programming Languages, Compilers, OOP, Microprocessors

Programming Languages: C, C++, Python, Java

EXPERIENCE

Undergraduate Researcher   January 2021 - Present
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
- Evaluating numerous strategies and their variants

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

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

Research Assistant   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
- Developed a tool to get statistics on temperature data in an area using 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

Systems and Network Projects | *Cloud & Distributed Systems, File Systems*   September 2020 - Present
- Implemented a cloud infrastructure system, along with containerization, autoscaling, monitoring, orchestration, etc, and ran services on it
- Implemented GFS (Google File System) with metadata server, chunk servers and client mechanisms
- Implemented distributed merge sorting, a concurrent TFTP server and a terminal shell, with piping and redirects

Multi-Robot Exploration | *Multi-Robot Systems, C++*   January 2021 - Present
- Studied strategies and proposed 6 distinct approaches and further variations to explore unknown areas using multiple robots
- Implemented simulations for the approaches and evaluated their performance
- Explored further improvements with decentralized mechanisms and optimizations in various subsystems

Rectangular Floorplans | *Graph Theory, Python*   July 2021 - December 2021
- Studied strategies to generate rectangular floorplans given rooms and their adjacency relations
- Relaxed constraints on input graphs by eliminating separating triangles
- Worked on generating multiple output floorplans through non-deterministic methods
- Identified graph features for creation of rooms with certain shapes and used them to make such rooms

Graph Isomorphism | *Graph Theory, Python*   August 2020 – December 2020
- Studied, implemented and evaluated algorithms for random graph isomorphism
- Proposed improvements 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 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