BHARATH HEGDE

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BITS Pilani KK Birla Goa Campus, Zuarinagar, Sancoale - 403726, Goa, India

EDUCATION

BITS Pilani KK Birla Goa Campus — November 2020 - June 2024
BE in Computer Science and Engineering — *Goa, India*
CGPA: 9.14/10

Alpine Public School — April 2018 - July 2020
Physics, Chemistry, Maths, Computer Science — *Bengaluru, India*
Class 12: 96.2%

Sri Kumarans Childrens Home, CBSE — April 2012 - April 2018
Class 10 CGPA: 9.8/10 — *Bengaluru, India*

RESEARCH EXPERIENCE

R-PAD Lab, Carnegie Mellon University | Site — Jan 2024 - Jun 2024
Supervisors: Prof. David Held, Prof. Zackory Erickson — *Visiting Researcher*

- Developed vision-based RL policies for robot assisted dressing of the human arm reactive to arm movements and robust to arm occlusions, as part of my undergraduate thesis in Computer Science. Involved research on policy distillation, sim2real transfer, occluded observations and critical point analysis.
- Identified bottlenecks in dressing speed and optimised the ROS architecture to achieve a 35% speedup in dressing.

SenseLab, BITS Goa — Jun 2023 - Dec 2023
Supervisor: Prof. Sougata Sen

- Developed angle of arrival estimation methods using the MUSIC algorithm to build localisation systems based on WiFi sensing. Worked on synchronisation of data between the ESP-32 microcontrollers being used as receivers.

Research Student, BITS Goa — Jan 2023 - May 2023
Supervisor: Prof. Sujith Thomas

- Worked on bayesian modelling of relationships between stimuli dimensions and learning strategies of people when classifying data using R programming with JAGS.

WORK EXPERIENCE

Member of Technical Staff, Data Team, DevRev.ai — July 2024 - Present

- Helping build a performant data platform for effectively storing & retrieving data, visualization tools for embedded analytics that help aid companies in making well-formed decisions.

Member of Technical Staff Intern, ML Team, DevRev.ai — May 2023 - July 2023

- Built a pipeline for the automated generation of knowledge base articles from customer conversations.
- Developed a benchmarking tool to score the performance of article generation models.

Software Intern, DLT Labs — Jun 2022 - Aug 2022

- Developed tests for multiple backend services and used test results to improve codebase quality.

SELECTED PROJECTS

Project Kratos, Autonomous Subsystem | Site — 2021-2022

- Core member of the **autonomous navigation team** at Project Kratos, a BITS Goa Martian rover team
- Placed **1st in India**, 2nd in Asia and 20th in the world at the **University Rover Challenge 2022, Utah.**
- Worked with OpenCV to develop custom image processing methods for arrow direction detection.
- Implemented object localisation, path planning and obstacle avoidance algorithms for the rover.

PolGuard | Link — 2022

- Client side desktop app for **ML based malware detection** that sends reports to police side webpage.
- **Winning project** at the Goa Police Hackathon 2022 for scalability and usability for the Goa Police.

Genetic Algorithm for the Vertex Colouring Problem | Link 2023

- Implemented the genetic algorithm with crossover reproduce, mutations, culling, elitism and random restarts.
- Analysed the effects of various hyperparameters on the fitness value of the graph.

TEACHING ASSISTANTSHIPS (TA)

Fall 2023	Theory of Computation, BITS Goa
Spring 2023	Artificial Intelligence, BITS Goa
Fall 2022	Discrete Structures for Computer Science, BITS Goa

POSITIONS OF RESPONSIBILITY

Student Mentor Dec 2021 - May 2022
Academic Assistance Program *Center for Technical Education*

- Conducted tutorial sessions for over 90 students for the courses Mathematics I (*Fall 2021*), Mechanical Oscillations and Waves (*Fall 2021*) and Mathematics II (*Spring 2022*).

Course Representative Fall 2022
Artificial Intelligence *Association of Computer Science, Goa*

- Student intermediary for collecting continuous feedback about issues faced by students. Helped improve course quality by working with the professor.

SELECTED AWARDS AND HONOURS

- Received the **Kishore Vaigyanik Protsahan Yojana (KVPY)** fellowship for research aptitude from the Department of Science and Technology, Government of India in 2020.
- Received the **100% merit scholarship** from BITS Pilani Goa in 2021, for academically performing in the top 10 of the college.
- Received the **IPCD Travel Grant** supporting my abroad research thesis in 2024.
- Received the **International Award for Young People (IAYP), silver and bronze** awards, for successfully completing requirements in Social Service, Skills, Adventurous Journey and Physical Recreation, awarded by the Award Programme Foundation Trust India, in 2018 and 2017 respectively.
- Received the **Top Performer of the Year** award in 2020 for academic performance in class 12, from Alpine Public School.
- Awarded the **Top Performer Certificate** for the best submissions in the 2021 editon of Quark Summer Technical Projects.

EXTRACURRICULARS

- Secured the **first place** in the state wide **Goa Police Hackathon** 2022 among 40+ teams.
- Part of the **Indian-German exchange programme** in Class 10. Hosted a German partner in Bengaluru during October 2017 and was hosted in Augsburg during April 2018.
- Attended the **4th Summer School on Theoretical Foundations of Computer Science** 2022, organised by the International Institute of Information Technology Bangalore (IIITB).
- Part of the **Adv. Cache Memory reading group** in Fall 2023 which explored state of the art cache replacement policies, prefetching and cache coherence under the guidance of Prof. Kanchan Manna.

RELEVANT COMPLETED COURSES

Discrete Structures for Computer Science, Logic in Computer Science, Object Oriented Programming, Data Structures & Algorithms, Database Systems, Programming Languages, Theory of Computation, Computer Architecture, Operating Systems, Computer Networks, Compiler Construction, Design & Analysis of Algorithms, Artificial Intelligence, Machine Learning, Quantum Information & Computing

TECHNICAL SKILLS

- **Programming Languages**: C++, Python, C, Java, Assembly
- **Libraries**: NumPy, OpenCV, Pytorch, Qiskit, Matplotlib
- **Others**: Git, SQL, Vim, ROS, LaTeX, Linux, Bash Scripting, Docker