

# BHARATH HEGDE

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

## EDUCATION

<b>BITS Pilani KK Birla Goa Campus</b> <i>BE in Computer Science and Engineering</i> CGPA: 9.03/10 (First 7 Semesters)	November 2020 - Present <i>Goa, India</i>
<b>Alpine Public School</b> <i>Physics, Chemistry, Maths, Computer Science</i> Class 12: 96.2%	April 2018 - July 2020 <i>Bengaluru, India</i>
<b>Sri Kumarans Childrens Home, CBSE</b> Class 10 CGPA: 9.8/10	April 2012 - April 2018 <i>Bengaluru, India</i>

## WORK EXPERIENCE

<b>Software Intern, DevRev.ai</b> <ul style="list-style-type: none"><li>Automated the generation of knowledge base articles from conversations with customers.</li><li>Created an endpoint for FAQ generation which is now being used in production.</li><li>Developed a benchmarking tool to score the performance of similar models.</li></ul>	May 2023 - July 2023
<b>Software Intern, DLT Labs</b> <ul style="list-style-type: none"><li>Developed a testing framework for multiple backend services and used test results to improve codebase quality.</li></ul>	June 2022 - August 2022

## RESEARCH EXPERIENCE

<b>SenseLab, BITS Goa</b> Guide: <a href="#">Prof. Sougata Sen</a> <ul style="list-style-type: none"><li>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.</li></ul>	Jun 2023 - Dec 2023
<b>Research Student, BITS Goa</b> Guide: <a href="#">Prof. Sujith Thomas</a> <ul style="list-style-type: none"><li>Worked on bayesian modelling of relationships between stimuli dimensions and learning strategies of people when classifying data using R programming with JAGS.</li></ul>	Jan 2023 - May 2023

## SELECTED PROJECTS

<b>Project Kratos, Autonomous Subsystem</b>   <a href="#">🔗 Site</a> <ul style="list-style-type: none"><li>Core member of the <b>autonomous navigation team</b> at Project Kratos, a BITS Goa Martian rover team</li><li>Placed <b>1st in India</b>, 2nd in Asia and 20th in the world at the <b>University Rover Challenge 2022, Utah</b>.</li><li>Worked with OpenCV to develop custom image processing methods for arrow direction detection.</li><li>Implemented object localisation, path planning and obstacle avoidance algorithms for the rover.</li></ul>	2021-2022
<b>PolGuard</b>   <a href="#">🔗 Link</a> <ul style="list-style-type: none"><li>Client side desktop app for <b>ML based malware detection</b> that sends reports to police side webpage.</li><li><b>Winning project</b> at the Goa Police Hackathon 2022 for scalability and usability for the Goa Police.</li></ul>	2022
<b>Genetic Algorithm for the Vertex Colouring Problem</b>   <a href="#">🔗 Link</a> <ul style="list-style-type: none"><li>Implemented the genetic algorithm with crossover reproduce, mutations, culling, elitism and random restarts.</li><li>Analysed the effects of various hyperparameters on the fitness value of the graph.</li></ul>	2023
<b>Voice Digitizer, Embedded Systems programming</b>   <a href="#">🔗 Link</a> <ul style="list-style-type: none"><li>An Intel 8086 Architecture based simulation written in Assembly. Converts analog speech to digital signals followed by functionalities for its storage and retrieval.</li></ul>	2022

## TEACHING ASSISTANTSHIPS (TA)

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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

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### Student Mentor

December 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.

### House Captain

2016 - 2018

*Student Council*

*SKCH, CBSE*

- Administration and organisation of literary and sports fests of the school. Managed the logistics of various inter-school events and led the house in inter-house competitions.

## SELECTED AWARDS AND HONOURS

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- 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 **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 edition of Quark Summer Technical Projects.

## EXTRACURRICULARS

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- Secured the **first place** in the 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

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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

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- **Programming Languages:** C++, Python, C, Java, Assembly
- **Libraries:** NumPy, OpenCV, Pytorch, Qiskit, Matplotlib
- **Others:** Git, SQL, Vim, ROS, L<sup>A</sup>T<sub>E</sub>X, Linux, Bash Scripting, Docker