

Jasmeet Kaur

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Education

- **Birla Institute of Technology and Science** **Pilani, India**
Bachelor of Engineering (Hons) in Computer Science, *Aug 2015 - Sept 2020*
CGPA: 8.75/10
Programming Languages: C++, C, Java, Javascript, Python, SQL, HTML, CSS
Tools and Libraries: SBPL, ROS, HOG2

Work Experience

- **Alberta Machine Intelligence Institute, University of Alberta** **Alberta, Canada**
Research Intern *Sept 2020 - Present*
Working with Nathan Sturtevant on heuristic search algorithms
 - Working on finding an efficient way to solve shortest path problem for graphs with negative edges but no negative cost cycles. I am analyzing methods to achieve a suitable transformation of graph using inconsistent heuristics, contraction hierarchy and linear programming.
 - Working on making Iterative Budgeted Exponential Algorithm (IBEX) more efficient for search on graphs. My primary goal is to reduce the computational overhead that occurs during the node expansions. Currently, I am devising ways to reuse nodes expanded across different iterations during the search.
- **Robotics Institute, Carnegie Mellon University** **Pittsburgh, USA**
Research Intern *August 2019 - July 2020*
Worked with Maxim Likhachev on search-based planning for robot motion planning
 - Developed an algorithm for Heuristic Computation to speed up search by learning to avoid regions of local minima.
 - Implemented A*, Weighted A*, Multi-Heuristic A*, Machine Learning Models (DNN (Feed Forward Network), Random Forest, Decision Tree), tested for 3D (x, y, theta) planning and humanoid footstep planning in static environments.
- **Amazon Development Centre India Pvt. Ltd.** **Hyderabad, India**
Software Development Engineer *May 2019 - July 2019*
Worked for Customer Brand and Trust Team
 - Developed Document Generation Service from scratch and made it up and running for production.
 - The Service takes critical user data from a secure storage, generates the required document and stores it back.
 - Worked with Service Oriented Architecture, Automated Build Tools, Service API and large databases.
 - Implemented code using Java, JavaScript and SQL
- **Value First Digital Media** **Gurugram, India**
App Developer *May 2017 - July 2017*
 - Developed a Mobile Application that helps users, using any e-commerce site, make informed decisions
 - The application gathers prices and offers shown across all e-sites and provides this information to the user.
 - Implemented code using Java and JavaScript

Projects

- **Emotion Aware Health Care for Each (EACH for Each)**
Affective Computing
Under the Guidance of Prof. Sreejith
 - Implemented facial expression recognition by selecting features across various geometrical features and comparing differences with a neutral expression.
 - Used MATLAB for processing the speech signals to get MFCC and combined it with Facial Expression detection and data obtained from other physiological sensors such as pulse rate and E.E.G. signals.
 - Implemented using Machine Learning and it is a person-specific classifier module.

Natural Algorithms

○ *Study Project*

Under the Guidance of Prof. Bharat Deshpande

- Implemented and analyzed different algorithms operating in natural systems drawing parallels between these systems and real-world situations.
- Helped me gain knowledge about algorithms inspired from nature and their application to different problems in actual world.

Smart Lighting System

○ *Microprocessor and Interfacing*

- A design project simulated on Proteus to make a smart lighting system for a conference hall.
- Switches on the lights of each row as soon as a person enters and directs him to sit.
- This was implemented using Intel 8086 processor with peripheral devices like 8259, 8253 and 8255.

Question-Answer generating module

○ *Information Retrieval*

- Developed a system that processes a large data set of Questions and Answers.
- It then answers same and related questions by retrieving this information from the data set.

Outreach

Teaching Assistant

○ *Discrete Structure of Computer Science*

Under Prof. Neena Goveas

- Assisted the faculty in taking tutorials for the course, designing programmings tests and quizzes.
- Helped the students to gain a better understanding of the subject.