Vaibhav Jain

Applied for ....

EDUCATION

Cluster Innovation Center, University of Delhi — *Bachelor of Technology in Information Technology and Mathematical Innovation*

JULY 2016 - JUNE 2020

- Aggregate: 79.4% [Rank 5]
- Major: Computer Science
- Minor: Mathematics, Electronics

Kiddy's Corner Public School (CBSE), Gwalior (India) — *12th Class (AISSCE)*

MARCH 2016

- Aggregate: 92%
- Rank 1 in High School

WORK EXPERIENCE

University of Delhi, New Delhi (India) — *Research Intern*

JUNE 2018 – JULY 2018

Project undertaken –– Developing a vanilla Operating System Kernel from scratch. Includes programming in Assembly/C of:

- ❏ Shell
- ❏ Bootstrap routine
- ❏ BootLoader
- ❏ I/O routines in 16-bit mode
- ❏ 32-bit protected mode for x86 platforms.

Worked under Asst. Prof. Sachin Kumar at Cluster Innovation Center.

CIC Robotics Internship Programme [CRIP] — *Mentor at CRIP*

JUNE 2018 - JULY 2018

Mentored a team of 3 students
Project: Swarm Robotics and Formation Control

- ❏ Developed a localization method for swarm
- ❏ Implemented various motion planning algorithms for a single and swarm robots
- ❏ Explored dynamic planning for active swarm

PERSONAL INFORMATION

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Date of Birth
September 20, 1997

Websites
◯ GIthub/Vab-jain/
in Linkedin/in/vaibhav-jain-du/
f Facebook/VaibhavJain.014

University of Delhi, New Delhi (India) — *Research Intern*

JUNE 2017 - JULY 2017

Developed a prototype robotic arm capable to mimic a human arm motion.

- ❏ Used Kinect Sensor to generate 3D map of the user's environment.
- ❏ Implemented PID controller for motor control system.
- ❏ Platform used: Robot Operating System [ROS] and Arduino

Worked under Prof. Shobha Bagai at Cluster Innovation Center.

ACHIEVEMENTS

AIR Rank 15
Cluster Innovation Center,
University of Delhi Entrance
Examination.
Total Aspirants 10000+

Fastest Line Following Robot
At IIT Kanpur, IIIT Delhi, Delhi
Technical University, Thapar
University and various other
competition venues

1st Place in Hackathon
at Blitzkrieg 2k16 and Convoke
2017

PROJECTS

Neural Machine Translation — [Jan 2018 - Mar 2018]

- ❏ Explored the seq2seq NMT model and the mathematical concepts used in the research paper by Minh-Thang Luong et. al.
- ❏ Trained seq2seq based NMT (Neural Machine Translation) model in Tensorflow on English to Vietnamese dataset
- ❏ Verified the results observed in the research paper "FS-RNN" by A. Muzika
  - ❏ Expected BPC on 30 iterations = 1.78
  - ❏ Observed BPC on 30 iterations = 1.81

Image Processing — [Dec 2018]

- ❏ "Meme Classifier" | Image Classifier for a custom dataset of MEMEs
- ❏ Explored and Applied various techniques in Image Processing
- ❏ Accuracy Rate ~81% on a dataset of 4000 images

Swarm Robotics — [Dec 2017 - Feb 2018]

- ❏ Used FIREBIRD V and SPARK robot platforms
- ❏ Developed algorithms for Localisation and Path Planning of the robots
- ❏ Implemented communication protocols for inter-robot data communication
- ❏ Designing attachments for the robots

Other Mini Projects (see *https://github.com/Vab-jain* for more information)

- ➔ Amazon Product Recommendation System using R [Mar 2018 - April 2018]
- ➔ Sentiment Analysis on Call Center Chat Database [June 2018]
- ➔ Stock Management App [**BETA testing**] [Feb 2018 - Present]
- ➔ Trajectory Planning and its Application on Robotic Manipulator [Feb 2017 - Apr 2017]
- ➔ Advanced Maze Solving Robot [Aug 2016 - Oct 2016]

PERSONAL SKILLS

Technical Skills

Programming Language
Proficient in: **C, C++, Python, Embedded C**
Also familiar with: **Java, Matlab, R, JavaScript**

- Programming experience of past 5 years
- Solid base in programming concepts

Professional Softwares/Platforms/APIs
- Tensorflow, OpenCV, Keras, PyTorch, LTspice, CPUsim, Atmel Studio, Anaconda, Jupyter NoteBook
- Proficient user of office suites (like MS office, WPS office, Google Suite)
- Intermediate level user of Image and Video editing software.

OS Platforms
Linux, Windows, ROS, Phoenix OS

Hardware Knowledge
FIREBIRD, Spark V, ATmega Series (AVR), Arduino, ESP8266, XBee communication modules, RaspberryPi, and IMU module

Digital Skills

SELF-ASSESSMENT				
Information Processing	Communication	Content	Creation	Problem solving
Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

Digital skills - Self-assessment grid

Positions of Responsibility

- **Project Manager** at Autonomi, the Robotics society at Cluster Innovation Centre [since Jan. 2017]
My position as "Project Manager" requires me to get involved with every project ongoing under Autonomi and review their progress. I also help them gathering financial as well as intellectual resources.
- **Organizing Member of ROSPy Jam:** meet-up aimed for people working with either ROS or python or both.
- **Core Organizing Member** of CIC Robotics Internship Programme [CRIP]: CRIP is an initiative by Autonomi to enable budding roboticists to work on projects under the mentorship of experienced students/ faculty/ industry persons in the field of Robotics. (website: crip.ml)

Communication Skills

- Good presentation skills. Given various **Workshops** on Robotics and Beginner Programming
- Good writing skills. Competent in writing well-organized and structured reports. **Scored 86%** (Rank 3) in academic paper "ART OF COMMUNICATION & CREATIVE WRITING"
- Dedicated team member. Participated and won in many team-based competitions.

Extra Curricular Activities

- Music: Proficient in Keyboard and Piano. Over 8 years of experience in Keyboard and Indian Classical Music.
- Member of the High School and College Soccer Club First Teams.