॥ सा विद्या या विमुक्तये ॥
भारतीय प्रौद्योगिकी संस्थान धारवाड
Indian Institute of Technology Dharwad

DHRUV JAIN

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AI Technophile, EE Senior with passion for Coding

EDUCATION

Indian Institute of Technology, Dharwad (IITDH) *2018 – Present (SEM 7)*
Bachelor of Technology in Department of Electrical Engineering. SPI: 9.73/CGPA: 8.77

Pace Junior Science College, Mumbai *2016 - 2018*
High School, Stream: Science, (Optional: Computer Science). Score: 83.69%

HVB Global Academy, Mumbai *2003 - 2016*
School, (Optional: Computer Science). Score: 93.17%

CAREER OBJECTIVE

To work for an organization that provides me the opportunity to practice and improve my skills and knowledge to grow along with the organization's objective for a developing community.

TECHNICAL STRENGTHS

Programming Languages: Python2/3, MATLAB, PHP, GIT, C/C++, Java, MySQL, HTML, CSS, Bash, Shell, LaTeX, JS, AJAX.

Modeling and Analysis: Artificial Intelligence: ML/DL, OpenCV, Speech Language Processing, Cloud Hosting and Management: AWS/GCP/AZURE/Shared-Hosting, Google Colab, Flask, Laragon, GitHub, VS code, Linux, MS Office.

WORK EXPERIENCE

BHARAT ELECTRONICS LIMITED (BEL) and IITDH (May 2021 - August 2021)
Data Scientist Intern

· Online Multi-Target Tracking Using Recurrent Neural Networks. The task was to achieve better accuracy than the existing state of the art which is Interacting Multiple Model (IMM) filter, alongside provide estimations of prediction as well as smoothing of the trajectory of an object in radar vicinity using deep-learning techniques.

Milestone Business Ventures LLP (MBVL), Mumbai (May 2019 - August 2019)
Backend Developer and Data Analyst Intern

· This internship not only helped me develop my technical skills but also helped me in understanding various non-technical aspects such as quantity estimation, labor management, and safety precautions. Also, developed and hosted a showcase website for this manufacturer to display its products online.

RESEARCH AND DEVELOPMENT

Deep Learning based Radar Multi Target Tracking (August 2021 - ONGOING)

· Outperformed the existing state of the art, Interacting Multiple Model (IMM) filter by deep-learning techniques, in-order to predict and smoothen out the trajectory of the object in radar vicinity, with good accuracy.

PROJECTS

Real-Time Speech Recognition System on FPGAs, IITDH (August 2021 - December 2021).
Software Programmer and AI Developer
Implemented real-time end-to-end speech recognition system on hardware. Alongside, integrating a microphone, ADC and FPGA, and speakers through few pre-trained TCN/TDNN deep learning models.

Bosch Traffic Sign Recognition, IITG (February 2021 - March 2021) (Link to Code).
Data Scientist and Advisory Role
A step closer to L5 autonomy, we tried to solve a challenging problem which will help a vehicle make decisions by itself, by recognizing the traffic signals on the road, on its own using BOSCH's dataset.

Smart India Hackathon, Kerala (June 2020 - August 2020) (Link to Code).
AI Model Developer and Data Engineer
Developed an Asset Performance Monitoring platform based on ML algorithms to calculate the maximum real-time reliability and efficiency of the process plant equipment's such as motors.

Indian Institute of Technology, Dharwad (March 2018 - April 2018) (Link to Code).
Software Engineer and Communication Manager
Building Face-Detection Door Unlock system. Implemented various aspects such as face detection using pre-trained haar-cascades, image processing using OpenCV. Learned to work with raspberry-pi devices.

Minor/Course Projects

Machine Learning IPL 2020 Winner Predictor (Link to Code).
ML model to predict the winner of IPL 2020, using Kaggle data of 2009-2020 matches (80%+ Accuracy).

Chess Keywords Voice Detection (Link to Code).
Understand spoken chess commands and converts it to chess notation, to make a move in the Chess GUI.

Generating images using CNN and Autoencoders (Link to Code).
Denoise the images and generating new clean sample of the images for further prediction process.

Visualizing optimization algorithms and its convexity (Link to Code).
Checking for convexity of fn.'s by visualizing them in 3D interactive plots; for solving convex problems.

Interactive tool to monitor motors efficiency (Link to Code).
APM UI to calculate efficiency of Motors using an ML, even provides suggestions to increase reliability.

Website Development (Link to Code).
Project of building and hosting an interactive and responsive website to displays products for a company.

Machine Learning Image Classifier (Link to Code).
Building a CNN to predict digits using the Kaggle MNIST dataset TensorFlow in python.

Data Filtering and Data Visualization (Link to Code).
Transforming and understanding relations in data using Heat-maps, visualizing tool of python-cufflinks.

Image Processing and Object Detection using Deep Learning Techniques (Link to Code).
Adding: text, line, shapes, objects in images. Identifying face and eyes using haar-cascades.

Maze Solver Bot (Link to Code).
Using Arduino with ultra-sonic sensors to help bot to escape a maze, using right side wall technique.

Relevant Courses Completed

- Data structures and Algorithms
- Programming Techniques
- Pattern Recognition and Machine Learning
- Neural Networks and Deep Learning
- Speech Processing
- Optimization Theory and Algorithms
- Information Theory
- Computer Architecture
- Data Analysis
- Computer Programming
- Introduction to High Performance Computing
- Calculus and Linear Algebra
- Introduction to Probability
- Introduction to Communication Systems
- Digital Signal Processing
- Digital Systems

ACADEMIC ACHIEVEMENTS

- Runners up Participated in 9th Inter IIT Tech Meet, IITG (2021).
- in Machine learning Competition organized by Smart India Hackathon (2020).
- Won Coding Competition in Indian Institute of Information Technology, Dharwad (2019).
- Secured AIR 7514 in JEE Advanced among 2,000,000 students in open general category (2018).
- Runners up in Game-Making Competition organized by Game Jam Titans (2016).

PERSONAL TRAITS

- I can understand 5 languages: English, Hindi, Marwari, Gujrati, Marathi.
- PORs: Hostel Allocation team member, AI club member, Quiz club member, Tech team member.
- 21 years young CS Enthusiast that has ability to work as an individual as well as in a group.
- Believes in Openness, Conscientiousness, Extraversion, and Agreeableness.
- Strong motivational, management and leadership skills in any assigned task.
- Interested in Sports: Cricket, Football, Badminton, Basketball, Swimming, Athletics, Chess and many more.
- Taking various courses on Coursera and Udemy Platform regarding AI, Python, Web Development.
- Keen interest in topics such as Gravity, Black Hole, Quantum Physics, Cosmos, Mythology.