VIKASH SINGH

Indian Institute Of Technology Mandi

Vikash Singh | vicky157 | Vikash Singh | vikashjohn2505@gmail.com | +918219690575

Experience

DEFENCE RESEARCH AND DEVELOPMENT ORGANISATION (MINISTRY OF DEFENCE, INDIA). | Machine Learning engineer | Research Internship

Jan 2022 – July 2022 | Chandigarh, India

- Mentor - Dr. MK Kalra.
- Created a satellite imagery dataset by labeling the objects.
- Developed a deep neural network model to detect the roads from satellite Images.
- The accuracy using auto-encoders was 70% .
- Achieved accuracy of 83% after increasing the layers and decreasing the learning rate.

HATCH-MARINE CONSULTANTS. | Machine Learning Engineer | Project Internship

Dec 2021 – Feb 2022 | New Delhi, India

- Mentor - Dr. Karan Gupta.
- Collected the previous year data from research papers and books.
- predicted the scour depth of a river in Taiwan using machine learning models.

Projects

SIGN LANGUAGE DETECTION | Python3 | Machine Learning

2021

- Developed convolutional neural network to detect sign language gestures. The dataset created by hand gestures yielded an accuracy of 93.4

SPEECH EMOTION ANALYZER | Python3 | JavaScript | Machine Learning

2020

- Developed model is very well trained to distinguish between male and female voices and it distinguishes with 100% accuracy.
- The model is tuned to detect emotions with more than 70% accuracy. Accuracy can be increased by including more audio files for training.

A RECOMMENDATION SYSTEM FOR FILMS | Python3 | Machine Learning

2020

- The language python I used to generate a machine learning-based movie recommendation.
- Developed recommendation system uses a filtering procedure to send forth suggestions to users based on other users' interests and browsing history.
- If A and B enjoy "Home Alone" and B enjoys "Mean Girls", it can be recommended to A; they may enjoy it as well.
- Customers will be more engaged with the platform as a result of this.

LANDSLIDE WARNING SYSTEM | Python3 | Machine Learning

2020

- Data Science - III Project — Mentored by: Dr.Dileep A. D. and further processed with Dr. Varun Dutt.
- Conducted survey and generated data of the land slides of hilly area. Analysed that data for prediction using Pattern Classification, Regression, Clustering by using parameters like weather, height, slope and rain.

WEATHER FORECASTING SYSTEM | Python3 | Machine Learning | Deep Learning

2022

- Enviromental Impact Assesment Project — Mentored by: Dr. Tanushree Parsai.
- Collected the data of recent years using some research papers and articles.
- Performed Machine learning algorithms such as regression and probabilistic analysis to predict the weather.

Certifications

- Crash course on python (Google) grade: 91%.
- Python data structure (University of Michigan) grade: 100%.
- Python Programming: A concise introduction (Wesleyan University) grade: 88.88%.
- Programming for everybody (University of Michigan) grade : 99.08%.
- Applied machine learning in python (University of Michigan) grade : 99.36%.
- Neural Networks and deep learning (DeepLearning.Ai) grade : 90%.
- Google cloud machine learning and data science.(link)

Achievements

- Secured Second place in Robo war, an event in Utkarsh'19 (tech fest in IIT Mandi).
- Secured 1st position in school city in inter school science competition.
- Secured 72nd position in NEST'19.
- Hold a certificate of outstanding performance in RBSE class 10th.
- Participated in the International Writing Competition for Students and Placed Third

Positions of Responsibility

- President of Programming club and Robotics club in IIT Mandi.
- Planing and Management Head in Ranneeti 2019 (sports fest in Himalyas.
- Conveynor of Expecto'22 (A tech fest of IIT Mandi)
- Management Coordinator of Srijan'19 in IIT Mandi (A technical Fest of Civil Engineering).

Honors

2019 NEST (National Entrance Screening Test) 72^{nd} All India Rank
2019 IISER (Indian Institute of Science Education and Research) SCB Exam 220^{th} AIR
2018 KVPY (Kishore Vaigyanik Protsahan Yojana) Fellow
2014 Topper of group of schools in 10^{th} Grade.

Skills

PROGRAMMING

Proficient:
Python3 • C++ • CSS • HTML

Experienced:
LaTeX • JavaScript • c#
• Matlab

Familiar:
Java • Kotlin • SQL • R

LIBRARIES/FRAMEWORKS

Tensorflow • Keras • Pytorch
• OpenCV
• React • SciKit etc.

TOOLS/PLATFORMS

Git • Gulp • Webpack • Heroku
Wordpress • Docker

Education

INDIAN INSTITUTE OF TECHNOLOGY MANDI

Bachelor's in Major Civil engineering and Minor computer science and Intelligence systems

Jun 2019 - June 2023 | Mandi, Himachal Pradesh

Cum. GPA: 7.95 / 10

References

Dr. Karan Gupta, HOD-Civil Engineering and Research Head, Hatch-Marine consultants

Coursework

UNDERGRADUATE

• Deep Learning and Its applications
• Pattern Recognition
• computer Vision
• Data Science I,II,III
• Operating systems

E-LEARNING

•Operating Systems
• Data structure and Algorithms
• Introduction to Python
• Python Data structures

Research work

PAPERS

• Extraction of Roads from satellite Images using Deep Neural Networks.
• Assesment Of The Prediction Equations Of General Scour At Bridge Using Probabilistic Framework: Application To CHOSHUI.
• Behaviour of Nanoparticles in Atmosphere Using Machine Learning Models.
• Satellite Driven LST And It's Association With Built-Up And Green Cover Over Urban Jaipur,Rajasthan (Using Deep Neural Networks)

Extra Curricular

• Captain of Badminton.
• Head of national social services.
• Core Member of Hiking and trekking club.
• Core Member of Mountain biking club.