Kuldeep Gautam

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EDUCATION

IIT HYDERABAD
M.Tech (Research) in CSE
Jan '20 - Present | Kandi, TS
GPA: 9.17 / 10.0

AKGEC
B.Tech in CSE
June '19 | Ghaziabad, UP
GPA: 7.95 / 10.0

COURSEWORK

GRADUATE
Advanced DSA
Foundations of Machine Learning
Deep Learning for Vision
Compiler Optimizations
Advanced Compiler Optimization
Compiler Engineering

UNDERGRADUATE
Data Structures and Algorithms
Operating Systems
Database Management Systems
Compilers

ONLINE
DL Specialization, **deeplearning.ai**
Machine Learning A-Z, **Udemy**
DSA using Python, **IITM-NPTEL**

SKILLS

PROGRAMMING
Python • C • C++
HTML/CSS • LaTeX• Markdown
Portable Bash Script • Shell

TECH STACK
Machine Learning • Deep Learning
Computer Vision • NLP

LIBRARIES
Pytorch • Tensorflow • Keras
Scikit-learn • NLTK • OpenCV
Numpy • Pandas

EXPERIENCE

IIT HYDERABAD | Research Asst / Teaching Asst
Aug '20 - Present | Kandi, TS
Advisor: Dr. Ramakrishna Upadrasta
TA for Compilers-2, and Compiler Optimizations.

SAMSUNG RESEARCH INSTITUTE | Software Engineer
July '19 - Dec '19 | Noida, UP
Part of Project Leading group, handling project management, code quality & compatibility of development, OS-upgrades, and maintenance release projects.

STRATEGIC IP INFORMATION (SIPI IP) | Data Science Intern
June '18 – July '18 | Noida, UP
- Implemented a computer vision model for image similarity.
- Implemented a python module for translating large data in foreign languages to English for better text processing & creating word clouds.
- Created a chrome extension for a marketplace for scraping the data.

RESEARCH

CODE VULNERABILITY DETECTION | Nov '21 – Present
Working with **S. VenkataKeerthy** under **Dr. Ramakrishna Upadrasta** to develop a machine learning model to identify the type of code vulnerability in the code using VexIR-based embeddings of code binaries.

CODE SUMMARIZATION & RETRIEVAL ENGINE | Feb '21 – Present
Working with **S. VenkataKeerthy** under **Dr. Ramakrishna Upadrasta** to develop a GAN-LSTM-based language agnostic code summarization and retrieval engine for generating code summaries, performing code search and code reconstruction given the pre-trained embeddings of the code. It will also provide language agnostic embeddings for all tasks.

COFO | Nov '20 – Feb '21
Worked with **S. VenkataKeerthy** under **Dr. Ramakrishna Upadrasta** to create a dataset of C, C++ (v11, v14, v17), Python3, and Java (v8, v11) named COFO using a python-selenium based codeforces scraper consisting of 809 unique classes/problems, suitable for code classification and code tagging task. Submitted this work to MSR-Data-Showcase '21.

ACADEMIC PROJECTS

ML/DL PROJECTS | Python, Scikit Learn, Pytorch, Tensorflow
Basic: House Price Predicton • Survival Prediction • DNN based Face Detection • Automated Essay Scorer • Image Generation using DCGANs • Image Captioning
From Scratch: Logistic Regression • Decision Trees • Random Forests • Feed Forward Neural Networks

METHOD NAME PRE-PROCESSOR | Python, NLTK
Implemented a text preprocessor using trie data structure to preprocesses short method names to meaningful method names as given in English dictionary alongwith a custom dictionary containing CS related words/acronyms.