Abhishek Kumar

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Experience

Infosys **February 2018 – August 2020**
Systems/Software Engineer *Bhubaneswar, Odisha*

- Worked in **agile web development** team in conjunction with other developers from KPIT, TCS and Cognizant.
- Created **invoice correction tool** for business users for manufacturing and distribution domain using Oracle Apex12.
- Responsible for **Google Map API integration** with CUMMINS global service locator application **web link**
- Tested and **fixed production bugs** and **server side validations** for SOX and Non SOX applications.
- Developed a **plant lifecycle management application** in Python for end to end process management.
- Prepared test cases for **regression testing**, **automated cron jobs** in Appworx and **documented HLD/LLD**.

University at Buffalo **May 2022 –**
Graduate Teaching Assistant *Buffalo, New York*

- Guiding students to develop deep learning projects for **video analysis** in the sports domain
- Assisting professor David Doermann and Nalini Ratha in conducting classes and grading student presentations.

Selected Projects

Soccer Player Re Identification | *Python, Pytorch, Soccernetv3, Torchreid* **April 2022**

- Developed a soccer player **Re-identification** model for SoccerNetV2 challenge.
- The architecture consisted of a **two stream CNN** network to learn **part features and appearance features** separately using pretrained networks and optimized using triplet an Id loss.

Text to image generation Using DRGAN | *Python, Tensorflow, Pillow, Word2vec, ResNet* **March 2022**

- Implemented a text to image generation model using **Deep Residual GANs on Flickr8k** dataset.
- Trained the dataset on a modified generator with Resnet blocks to generate text-guided fake images.

Taco DB | *C++, Git, Linux* **February 2022**

- Worked in a team of 2 to a build **single threaded mini database system** in C++11.
- Designed the **file manager**, buffer manager and page handler using **clock eviction policy** with **B+ tree indexing**.

Distributed Publisher/Subscriber System | *Python/Flask, Apache Kafka, Docker, html* **November 2021**

- Developed a multi node Publisher Subscriber System with **event based routing** in docker containers.
- Handled subscribe, unsubscribe advertise, de-advertise and notify functions.

Panorama stitching | *Python, OpenCV, Image processing* **October 2021**

- Created a program to stitch stereo images pairs to build a **panorama** with **SIFT features.**
- Implemented **K-Nearest Neighbour, ratio testing and RANSAC** to stitch images with seamless boundaries.

Technical Skills

Languages: Python, C++, SQL, Linux
Developer Tools: Pycharm, Eclipse, Docker, Git, Appworx, Oracle Apex, Toad
Libraries/Database: Tensorflow, Pytorch Keras, OpenCV, Flask, Kafka, Matplotlib, Oracle, Mongodb, Sqlite

Education

University at Buffalo **Aug. 2021 -**
Masters of Science in Computer Science (GPA - 3.668) *Buffalo, NY*

SRM University **July. 2013 - May 2017**
Bacherlors in Technology in Mechanical Engineering (GPA - 3.94) *Chennai, TN*

Relevant Coursework

- Analysis and design of Algorithms, Computer vision and Image processing, Machine learning, Deep learning, Automated analysis of Sporting videos, Neurosymbolic AI, Distributed Systems

Certifications

* Problem Solving Using Computational Thinking (Uni of Michigan) : https://coursera.org/verify/R3Y37QJP2WVJ
* Problem Solving Certificate (HackerRank) : https://www.hackerrank.com/certificates/0ba1070487a0
* Computer Vision with OpenCV and Deep Learning (Udemy) : UC-a7178e2a-fe7a-4624-84b8-4ad56af2ce5e