Uzzal Podder

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Summary

- 4 years of total experience in software engineering, with 3 years in machine learning and computer vision.
- Experienced in supervised and self-supervised learning tasks including image recognition, object detection, semantic segmentation, pose estimation, anomaly detection, regression, clustering.
- Proficient at Pytorch, Tensorflow(Keras), OpenCV, Python and deep learning workflow management.
- Adapted objectives and key results based leadership qualities with growth mindset and emotional intelligence.

Experience

Computer Vision Engineer

CHOWA GIKEN Corporation

Dec 2018 - Present (2 years 11 months +)

I develop scalable machine learning and computer vision algorithms, leveraging deep learning and classical geometric algorithms. My job responsibilities include initial research on state-of-the-art algorithms for problem framing, prototype design for PoC, proposed model testing with detailed statistical analysis and deployment in production environment. In a team of six members, I collaborate as a development leader.

My major contributions include-
• Developed an anomaly detection model for detecting foreign contamination in food by designing a multimodal self supervised transformers based architecture.
• Developed an Image-to-Image translation ML model for transforming metallic surface scribed text into OCR readable grayscale text.
• Designed a semantic segmentation model for the electric pole's serial-plate with accuracy 98%(target was 95%) by using hybrid model architecture.
• Improved medical image classification accuracy by 9% by reimplementing deep learning model with several custom loss functions.
• Created a recyclable object recognition model with accuracy 96%(target was 90%) by combining CNN and RNN multistage pipeline.

Primarily used tools:
• Python, C++, CUDA, OOP
• NumPy, Pandas, SciPy, Scikit-learn, Matplotlib, OpenCV, PyTorch, Tensorflow, Tensorboard
• ResNet, EfficientNet, MobileNet, U-Net, Mask R-CNN, SSD, YOLO, GNN, GAN, Transformers, ViT
• Docker, MLflow, GCP, AWS, Azure IoT hub, Ubuntu, bash scripting
• Industrial camera module, sensors, Nvidia jetson, Raspberry pi, Arduino

Research Assistant

Hokkaido University

Dec 2020 - Mar 2021 (4 months)

My role was to accelerate an ongoing research project in Jiritsu Lab by investigating related latest architecture on computer vision and human-computer Interaction from CVPR, NIPS, ICML, ICCV, ACL with their implementation details.

Software Engineer
Divine IT Limited
Nov 2017 - Sep 2018 (11 months)
I worked as a backend software developer. My primary responsibilities were backend REST API design, code optimization, database query optimization, source control and testing.

My notable contributions were-
• Increased server response efficiency by 12% by caching reusable dynamically generated java class objects. Technology used: Java, Ehcache, Redis cache, Linux/unix
• Improved request processing capability of a SaS marketplace by converting from monolithic to microservice architecture. Technology used: Java Spring Boot, PostgreSQL, Javascript, Multi-tenant architecture.

Education

Bangabandhu Sheikh Mujibur Rahman Science and Technology University (BSMRSTU), Gopalganj
Bachelor of Science - BS, Computer Science and Engineering
2013 - 2017
It was a 4 year course(160 credit) on Computer Science major with necessary mathematics and management studies. Beside the course work, I led a team to build an autonomous drone with artificial intelligence capabilities on embedded devices.

Licenses & Certifications

Deep Learning Specialization - Coursera
NDHHTCWGRHE4

Skills

Machine Learning • Deep Learning • Digital Image Processing • Video Processing • Natural Language Processing (NLP) • Data Structures • Unit Testing • Distributed Systems • Linux • Internet of Things (IoT)

Honors & Awards

Best Young Innovator in National Innovation Fair - a2i Programme
Feb 2016

1st Runner up in LICT Code Fest - Top Up IT and ITES Foundation Project, LICT Project, ICT Division, Government of Bangladesh
Feb 2017