Uzzal Podder

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Summary

• 4 years of total experience in software engineering, with 3 years in machine learning and computer vision.
• Adapted objectives and key results based leadership qualities with growth mindset and emotional intelligence.
• Experienced in supervised and self-supervised learning tasks including image recognition, object detection, segmentation, pose estimation, depth estimation, anomaly detection, 2d & 3D scene understanding.
• Proficient at Pytorch, Tensorflow(Keras), OpenCV, Python and deep learning workflow management.

Experience

Computer Vision Engineer

CHOWA GIKEN Corporation

Dec 2018 - Present (3 years +)

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, ML 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 vision transformers(ViT) architecture.
• Implemented an Image-to-Image translation ML model for transforming metallic surface scribed text into OCR readable grayscale text by combining U-net and GAN based model.
• Designed a semantic segmentation model to isolate serial-plate from electric pole with accuracy 98%(target was 95%) by using hybrid model consisting of Mask-RCNN and Graph Convolutional Net.
• Created a recyclable object recognition model with accuracy 96%(target was 90%) by combining CNN and RNN multistage pipeline.
• Improved medical image classification accuracy by 9% by reimplementing deep learning model with several custom loss functions.

TOOLS PROFICIENCY-
• Python, C++, CUDA, OOP
• PyTorch, Tensorflow, OpenCV, Scikit-learn, SciPy, NumPy, Pandas, Matplotlib, Tensorboard
• 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 read and implement academic literature on computer vision and human-computer Interaction which are recently published in CVPR, NIPS, ICML, ICCV, ACL to accelerate an ongoing research project in Jiritsu Lab.

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 and database query optimization. My notable contributions were-

• Increased server response efficiency by 12% by caching reusable dynamically generated java class objects.

• Improved request processing capability of a SaS marketplace by converting from monolithic to microservice architecture.

Tools experience: Java, Ehcache, Redis cache, Java Spring Boot, PostgreSQL, MySql, Javascript, Microservice, Multi-tenant architecture, git, CI/CD, Linux server.

Education

Bangabandhu Sheikh Mujibur Rahman Science and Technology University (BSMRSTU), Gopalganj

Bachelor of Science - BS, Computer Science and Engineering

2013 - 2017

KEY COURSES: Data Structures, Design and Analysis of Algorithms, Database Management System, Computer Networks, Computer Graphics, Operating Systems, Software Engineering, Artificial Intelligence, Machine Learning, Linear Algebra, Calculus, Matrices and Differential Equations, Statistics, Numerical Methods, Discrete Mathematics.

Licenses & Certifications

Deep Learning Specialization - Coursera

NDHHTCWGRHE4

Skills

Machine Learning • Deep Learning • Digital Image Processing • Video Processing • Natural Language Processing (NLP) • Distributed Systems • Algorithm Analysis • Debugging • Version Control • Software Development

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