Sukmin Kim

https://smkim7-kr.github.io

EDUCATION

The University of Hong Kong *Sept. 2017 - Present*
- Bachelor of Engineering in Computer Science *Pokfulam, Hong Kong SAR*
- **CGPA: 3.73 / 4.3 (Major CGPA: 3.85 / 4.3)**
- A+ in Software Engineering, Applied Deep Learning, Calculus, Linear algebra, Probability & Statistics, Discrete Mathematics

North London Collegiate School Jeju *Sept. 2013 - Jun. 2017*
- **International Baccalaureate: overall score 42 / 45** *Jeju Island, South Korea*
- Achieved level 7 in all HL Subjects: Mathematics, Physics and Economics
- IGCSE (7 A* including Mathematics, Additional Mathematics and Biology)

ON-GOING WORKS

DeepAccident: A Diverse Motion Prediction and Accident Prediction Dataset for Cooperative Autonomous Driving
Domain adaptive semantic segmentation using masked autoencoders

RESEARCH EXPERIENCES

HKU MMLab *Sept. 2022 - Present*
Part-time Research Assistant (Supervisor: Prof. Ping Luo) *Pokfulam, Hong Kong SAR*
- Assisting research project on autonomous driving, proposing metrics and dataset that predicts the accidents in driving scenarios
- Planning to submit the paper in February

Psuedo Lab *Aug. 2022 - Present*
Surgical Data Science Research Team member (Leader: Namkee Oh (M.D.)) *Seoul, South Korea*
- Researching a method to differentiate between right and left hemiliver during surgery
- Proposing metric-based evaluation method of models by categorizing labeling difficulty of ground truth labels from experts

URFP (Undergraduate Research Fellowship Programme) *Jul. 2022 - Aug. 2022*
Supervisor: Prof. Ping Luo *Pokfulam, Hong Kong SAR*
- Experimented with a method to improve unsupervised domain adaptation approaches using masked image modeling
- Assisted research project on accident-oriented autonomous driving

WORK EXPERIENCES

Psuedo Lab *Jul. 2021 – Nov. 2021*
Computer Vision Paper Reading Team member *Seoul, South Korea*
- Reviewed and discussed papers and codes of computer vision
- Presented three papers: AdaMatch, Self-Damaging Contrastive Learning and Meta Pseudo Labels [videos]

Korean Army 2nd Corps *Sept. 2019 - Apr. 2021*
CERT (Computer Emergency Response Team) Squad Leader *Chuncheon, South Korea*
- Monitored 24/7 for potential cyber attack including virus, port scan and malware
- Controlled several Linux servers and military security systems such as UTM and NAC
- Handled potential network vulnerabilities in the military systems

COMPETITIONS

Naver Clova AI Rush 2022 *Jul. 2022 - Aug. 2022*
Finalist (top 70) with 800 USD cash prize
- Solved image classification task to classify Seoul landmarks

- Solved recommendation task to recommend music to users of the Naver music platform

Naver Clova AI Rush 2021 *May 2021*
Top 150 participants with 600 USD cash prize
- Solved hierarchical image classification task to classify shopping images into three levels of categories with limited computational resources

AWARDS / CERTIFICATES

HKU Foundation Entrance Scholarship 2017, 2018, 2021, 2022
Received half tuition scholarship (9,400 USD every year) for the whole duration of undergraduate study

Deep Learning Specialization from Coursera 2021

Cisco Certification Network Associate (CCNA) 2019

Dean's Honors List 2018

MOS Master 2016 Certificate 2018

SKILLS

Core Python, C/C++, Linux, Java, Git, LaTeX

Machine Learning Numpy, Pandas, Pytorch, Matplotlib, Scikit-Learn, Tensorflow, Keras

MLOps Pytorch Lightning, WandB

Web Development Django, HTML, CSS, PHP, Node.js, React

Database SQL, MySQL, MongoDB

Language English (*fluent*), Korean (*native*)
- GRE: Verbal (159, 81%), Quantitative (170, 96%), Writing (4.0, 54%)
- TOEFL IBT: 107 (Reading: 30, Listening: 28, Speaking: 23, Writing: 26)

SELECTED PROJECTS

Undergraduate Final Year Project [webpage] [report] *Sept. 2022 - Present*
Thesis: Domain adaptive semantic segmentation using masked autoencoders

Whisk(e)y Classifier [report] [code] *Feb. 2022 - Apr. 2022*
- Built an application to detect whiskey from self-collected and labeled whiskey datasets using MMdetection framework
- Optimized training with WandB logging, hyperparameter tuning and data quality improvement

Deep Learning paper study [code] *Apr. 2021 - Nov. 2021*
- Reviewed deep learning research papers and codes from different fields of interest including self-supervised learning and 3D vision

AdaMatch-pytorch [code] *Jul. 2021 - Aug. 2021*
- Implemented code of *AdaMatch: A Unified Approach to Semi-Supervised Learning and Domain Adaptation* in Pytorch
- Investigated recent breakthroughs in semi-supervised learning