Seri Lee

AI RESEARCHER

Details

01084497024

sally20921@snu.ac.kr

Links

Main Website

Google Website

Github

LinkedIn

Skills

Deep Learning

Computer Vision

PyTorch / Python

Git / Docker / Linux

Languages

Korean

English

Chinese

Profile

Highly motivated graduate student at Computing and Memory Architecture Laboratory working with Dr. Sungjoo Yoo. Research interest includes self-supervised depth estimation and 3D reconstruction in computer vision.

Coding Experience

GWAJAMS Full Stack Web Development, Naver Hackerton

MARCH 2019 — FEBRUARY 2020

Developed a website using React/Redux for frontend, and Python Django for backend. Designing, commenting, voting features supported.

Development of HDR Algorithm, LG Display

SEPTEMBER 2018 — DECEMBER 2018

Developed an complete Android camera application using HDR (High Dynamic Range) algorithm. Researched and tested Exposure Fusion HDR algorithm. Modified and developed a new HDR algorithm using deep learning.

Research Projects

Optimizing unsupervised domain adaptation algorithm on mobile/edge devices, Computing and Memory Architecture Lab.

MAY 2020 — PRESENT

Researched SOTA contrastive self-supervised learning algorithms. Explored possible implications of SSL on domain adaptation algorithm, mainly on mobile/edge devices.

Development of Character-Centered Video Story Understanding Algorithm for Hierarchical QA with DramaQA Dataset, 2019 DramaQA Challenge

SEPTEMBER 2019 — DECEMBER 2020

Participated in a VideoQA Challenge called 'DramaQA'. Developed an multimodal dual attention network for videoQA task.

Development of a Key Value Store that supports LevelDB API for Key Value SSDs, System Software and Architecture Lab.

SEPTEMBER 2019 — MAY 2020

Aimed to design a LevelDB-like persistent key-value store that supports range queries and snapshots. Achieved signifiant performance improvement over the SOTA LSM-tree based key-value store using checkpoint based methods.

Building A Multi-Behavior Recommendation System Using Attention Mechanism, Data Mining Lab.

JANUARY 2020 — FEBRUARY 2020

Given user behavior data of multiple types, aimed to to predict users' next behaviors of target type. Developed an algorithm that captures the sequential patterns by using multi-head attention mechanism.

Education

BA, Seoul National University, Seoul

JANUARY 2021 — JANUARY 2021

Computer Science and Engineering. Chinese Literature and Language. Double major.

Publications

Multimodal Dual Attention Networks for 2019 DramaQA, KSC 2019

DECEMBER 2019 — DECEMBER 2019

Performance Evaluation of LevelDB on Key Value SSD, KSC 2019

DECEMBER 2019 — DECEMBER 2019

LevelKV: A Persistent +-Tree Based Key-Value Store for Key-Value SSD, KCC 2020

FEBRUARY 2020 — FEBRUARY 2020

LevelKV_star: Checkpoint Based Persistent Key Value Store for Key-Value SSD, APSys 2020

AUGUST 2020 — AUGUST 2020

SinForkGAN, ForkGAN with Single Rainy Night Images, ACML 2021 Submitted

JULY 2021 — JULY 2021

. ForkGAN has been proposed as a task-agnostic image translation method that can boost the performance of multiple vision tasks in adverse weather conditions. Although ForkGAN achieved remarkable image translation quality without any downstream task-awareness in an unsupervised way, the two complicated 'Night to Day' and 'Day to Night' image translation module requires some kind of division between the training images to night image and day image. In this paper, we show that we can actually do away with the 'Day to Night' translation module and only train ForkGAN with modified 'Night to Day' translation module using nighttime images only. We accomplish this by incorporating the recently proposed RumiGAN framework into the ForkGAN architecture without compromising its performance. Extensive experimental results on nighttime datasets show that our algorithm produces on par or sometimes even better results on image localization/retrieval, semantic segmentation, and object detection tasks compared to ForkGAN and other state-of-the-art methods. Code will be available at https://github.com/sally20921/SinForkGAN.

Awards

2019 DramaQA Challenge 2nd place(prize 1,500,000 won), Koersa Software Congress

DECEMBER 2019 — DECEMBER 2019

Employment History

Research Intern, Pacific Law Firm, Seoul

FEBRUARY 2018 — FEBRUARY 2018

Researched minimum wage and its implications.

Summer Intern, Music and Audio Research Group, Seoul

JULY 2019 — AUGUST 2019

Developed an end-to-end deep learning algorithm for lyric alignment.

Undergraduate Intern, System Software and Architecture Laboratory, Seoul

SEPTEMBER 2019 — MAY 2020

Developed a checkpoint based persistent key-value store for Samsung Key-Value SSDs. Reviewed and modified code on Google LevelDB. Created a benchmark to evaluate the performance of LevelDB on Key-Value SSDs.

Undergraduate Intern, Computing and Memory Architecture Laboratory, Seoul

MAY 2020 — PRESENT

Researched unsupervised domain adaptation on mobile/edge devices. Collaboration with PyTorch-Ignite reproducing SOTA contrastive learning algorithms including SimCLR, BYOL, SimSiam etc.

Courses

Introduction to Deep Learning, Seoul National University

Data Structures / Algorithms / Computer Programming , Seoul National University

Creative Integrated Design 1, Seoul National University

Principles of Software Development and Implementation, Seoul National University

Computer Architecture / System Programming , Seoul National University

Logic Design / Electrical and Electronic Circuits, Seoul National University

JANUARY 2021 — JANUARY 2021

Extra-curricular activities

Web Server Adiminstrator, SNUCSE Web Administrator Club (Bacchus), Seoul National University

Vice President , SNU Computer Study Club (SCSC), Seoul National University