JUYEON YOON

http://greenmon.dev
https://github.com/greenmonn

EDUCATION

KAIST, Daejeon *March 2014 - February 2020 (Expected)*
Bachelor of Computer Science Average GPA: 3.77/4.3

Purdue University, Indiana *September 2018 - December 2018*
Computer and Information Technology Department

RESEARCH INTEREST

Software Testing Automation, Multi-Agent Reinforcement Learning, Blockchain

RESEARCH EXPERIENCE

Modelling StarCraft2 Multi-agent Reinforcement Learning Strategy March 2019 -
Research Intern (Systems Intelligence Lab, KAIST)

· Currently exploring multi-agent reinforcement learning with graph neural network to apply StarCraft II environment. Working on implementing StarCraft II environment to support asynchronous learning.

LoRa-based Visual Monitoring Scheme for Agriculture IoT September - December 2018
Researcher (K-SW Purdue Capstone Project 2018)

· Proposed a novel technique to transmit continuous images taken from a camera on a static environment in agriculture through LoRa. Designed end-to-end architecture for transmitting image from camera sensor to web application server. Also worked on implementing prototype web application. Paper published on IEEE SAS 2019.

SASEUL: Blockchain of Proof-of-Stake Consensus June 2017 - December 2018
Blockchain Developer (Artifriends Inc.)

· Designed new consensus algorithm focused on role distribution of network nodes, inspired by PBFT algorithms to finalize blockchain state. Experienced overall system design process by discussing and deciding interface between blockchain architecture submodules. Studied internal structure of existing blockchains like Ethereum and Bitcoin by weekly seminar.

Networking & Mobile Systems Lab, KAIST March - July 2017
Research Intern

· Experienced overall research process from experiment design to paper writing on HCI field. Adapted the prototype of notification control application to conduct in-wild behavioral research to explore user-side perception of suggested smartphone notification control system.

WORKING EXPERIENCE

Artifriends Inc. June 2017 - December 2018
Web, Blockchain Developer

· Developed and operated a live web service Sellymon. Average 500 visitors(sessions) per a day. Experienced on component-based web development and web server construction. Managed regression testing & deployment pipeline using CI/CD on maintaining phase after beta release.

· With new approach of role distribution in blockchain network, worked on constructing fundamental structure of blockchain client program to provide proof-of-concept and evaluation. Developed state management system by implementing interface for constructing and manipulating patricia-merkle tree containing state information. Implemented structure and storing scheme of blocks, utilities for signing and verifying transactions and RPC server to handle external request to node.

· Trained Object-Oriented Programming using composition in Golang, and Test-driven development with Behavior-driven scheme.

SK Hynix June - July 2016
Application Engineering Intern

· Participated in SSD testing tasks, by observing packets through SATA command layer protocol.

PUBLICATIONS

LoRa-based Visual Monitoring Scheme for Agriculture IoT (IEEE SAS 2019)
Mookeun Ji, ***Juyeon Yoon****, Jeongwoo Choo, Minki Jang, Anthony Smith*

For visual surveillance system on vast agriculture environment, proposed new developing technique to transmit continuous images taken from a camera on a static environment through LoRa. The proposed system splits image to grid patches, and transmits only the modified area of an image based on dissimilarity measure to utilize low data rate of LoRa. The amount of transmitted data was reduced to 24% while preserving the image quality and the quality of service delivered to the application.

Context-Aware Notification System on Social Settings (KSC 2017)
Gunwoo Kim, ***Juyeon Yoon****, Juho Kim, Dongman Lee, Seongju Lee*

Performed user study on breakpoint-based smartphone notification system considering interactions in natural conversation setting. The key insight is separation of positive effect by smartphone use during conversation, like sharing useful information through smartphone. Applied our system to actual circumstance with noise in cafe or restaurant, and analyzed the distribution of breakpoints and notifications according to the 'inappropriateness' metric.

PROJECTS

Search Based Test Data Generation Tool
https://github.com/greenmonn/sbst-input-generator

Python implementation of automated test data generation using hill climbing and AVM.

Cheetah: Vehicle Rental Service
https://github.com/greenmonn/cheetah

Web application prototype for unified vehicle rental service, with Vue.js and Express API server.

TECHNICAL STRENGTHS

Programming Paradigm	Object-Oriented Programming, Test-Driven Development
Programming Language	Go, JavaScript, Python, C++, C, Solidity
Frameworks	Vue.js, Express.js, Electron, PyTorch
Tools	Git, Docker, LaTeX

HONORS & AWARDS

COSMOS Hackerthon (HackAtom) 3rd Prize 2019

· Won a 3rd prize in the Cosmos blockchain network
· Implemented a p2p charity application on Cosmos SDK and mobile web interface

Google Women Techmakers Scholarship 2019

· Selected as a recipient of 2019 APAC Women Techmakers Scholars Program
· Participating a retreat on August 29th - 31st 2019 hosted by Google at Sydney office

BlockParty dApp Whitepaper competition April 2018

· Won a second prize in the whitepaper competition in BlockParty 2018, hosted by Blue Point Partners

KAIST Alumni Scholarship 2015 - 2018

· KAIST Alumni Scholarship Committee

K-CAMP Scholarship 2017

· KAIST Convergence AMP & School of Computing

KAIST Writing Contest 2016

· Published as a series of KAIST, *"Courage of Being a Scientist"*

Dean's List Fall 2016

· Top 3% Academic Performance

TEACHING EXPERIENCE

Mentor of KWSE KAIST Campus Tour & Mentoring Program

· Assisted campus tour and did mentoring activity to guide students to decide career path
· For female high school students of science club
· *Supported by the Association of Korean Women Scientists & Engineers*

Mentor of LG CNS SW Medical Engineering Camp

· 3-day camp, participated as a mentor and program organizer
· Designed and performed an experiment measuring brainwave(EEG) by emotion
· For disadvantaged high school students supported by *LG CNS* group

ACTIVITIES

VOK: Voice of KAIST

· KAIST official broadcasting club
· Worked as announcer in radio, MC of school festival
· Made several videos for guiding freshman students to familiar with new school

Chaingers: KAIST Blockchain Study Group

· Collected KAIST undergraduate students interested by blockchain technology
· Leaded seminar about technical fundamentals of Ethereum network, state management with Patricia-Merkle tree, and writing Smart Contract.