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Los Angeles, CA 90007

MINGUN PAK

Machine Learning & Full-stack Engineer

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TECHNICAL SKILLS

Expertise

Deep Learning, Machine Learning, Natural Language Processing, Computer Vision, Full-stack

Programming language

Python, Java, C++, C#, R, Swift3, Ruby, PHP, JavaScript, HTML5, CSS, Assembly

Database

MySQL, PostgreSQL, MongoDB

Tools

Flask, Django, Tensorflow, Keras, PyTorch, Caffe, NLTK, Hadoop, Spark, AngularJS, Selenium

Others

AWS, Heroku, Google Cloud, Docker, Github, Trello, Source Tree, Slack

EDUCATION

M.Sc. in Computer Science, University of Southern California, Los Angeles, CA

Aug 2018

B.Sc. in Computer Science, Inha University, Incheon, South Korea

Aug 2015

WORK EXPERIENCE

Computer Vision Researcher(Intern), [ObEN](#) - Pasadena, California

Feb 2018 – Present

Research Area: 3D Human Pose Estimation, Depth Estimation, GANs

- Designed and implemented a dance generator from songs by Machine Learning Model
- Developed an model for real-time 3D Human Pose estimation with a single RGB camera

NLP Engineer(Intern), [DreamTek Industries](#) - Los Angeles, California

Sep 2017 – Dec 2017

- Implemented back-end features to optimize financial services selection and created a true banking API
- Developed a POS tagger and NER model using CRF and achieved 5% higher F1-score, compared to the model using HMM

Machine Learning Engineer(Intern), [Gridspace](#) - Los Angeles, California

May 2017 – July 2017

Github: github.com/kai3n/sentiment-analysis-imdb, github.com/kai3n/anomaly-detector

- Designed sentiment analyzer: achieved 91.5% accuracy on IMDb dataset, using hybrid CNN+LSTM model with bi-gram
- Developed anomaly detector for telephone call log, using GRU+Attention model with gradient-clipping & coverage

Software Engineer(Intern), [Samsung Electronics](#) - Seoul, South Korea

Mar 2014 – Apr 2015

- Designed the 64Bit Multi-Core OS prototype that increases performance by 50% of context switching speed
- Handpicked member for core development team that focused on multitasking & multithreading, device drivers, code reviews, and end-to-end integration
- Created a Bitcoin mining application on both 64Bit Multi-Core OS prototype and Ubuntu

Software Engineer(Intern), [Ministry of Science and ICT](#) - Seoul, South Korea

Jul 2013 – Feb 2014

Github: github.com/kai3n/Orroid

Publication: Pak, M. An Analysis on Techniques for Preventing Android Reverse Engineering, KIPS 2014, Seoul, South Korea

- Created an automatic secure coding verification tool for Android apps that detects vulnerable source code
- Designed a Java source code parser using Ruby

PROJECT EXPERIENCE

Early Warning System based on Twitter feed(github.com/kai3n/Early-Warning-System)

Jan 2018 – Feb 2018

- Developed an early warning system using auto-encoder based on bidirectional LSTM with attention

Sudoku Solver Android App(github.com/kai3n/AlphaKu)

Jan 2017 – Feb 2017

- Developed a solver that recognizes Sudoku in natural pictures (e.g., newspaper) and returns a solution on the mobile phone screen
- Achieved 99.68% accuracy on MNIST dataset, using ensemble CNN model

Auto-tagging Android Gallery App

Mar 2015 – Jun 2015

- Created an Android-based gallery app that detects and tags objects automatically within photographs
- Developed an algorithm to increase speed of image region detection, using the SURF and Union-find algorithm

AWARDS

1st place, CODEchella, Los Angeles, CA

Apr 2017

2nd place, Programming Contest, Inha University, South Korea

Sep 2014

2nd place, White Hat Hacking Contest, Samsung Electronics, South Korea

Jun 2014

1st place, Academy Hackathon, Inha University, South Korea

Dec 2013

2nd place, H.U.S.T hacking Festival, Hongik University, South Korea

Dec 2012