Hyunjun Choi

13041 Mesa Verde Way Sylmar, CA 91342 | 1- 562-275-1502 | choi797@usc.edu | www.linkedin.com/in/chj6509

EDUCATION

Master of Science in Computer Science December 2022
University of Southern California

Master of Science in Data Informatics December 2018
University of Southern California

SKILLS

- Programming: Python, ROS, MATLAB, R C++,C, JavaScript
- Tools: Tensorflow, OpenCV, Keras**,** Git, LaTeX, Docker, Nginx, AWS, GCP, Android Studio Code

WORK EXPERIENCE

Software Engineer-Machine Vision Internship June-Current 2021
Noria Water Technologies, Inc., Los Angeles, U.S.

- Implemented Change Detection algorithm based on deep learning using Python, Sklearn, Keras, OpenCV, GitHub.
- Implemented an image classifier that can classify clean water filter membrane images / fouled, scaled water filter membrane images using Python, Sklearn, Keras, OpenCV, Docker.
- Applied Gaussian Mixture-based Background Subtraction Algorithm for image dataset from real-time membrane monitor system using Python, Sklearn, OpenCV, GitHub.
- Created alert system for water engineers using Selenium, Python, HTML, Crontab.
- Implemented automatic Image detection and collection system on water filter membrane using Python, AWS S3, Crontab, Raspberry pi and Arduino camera.
- Utilized: Python, Sklearn, Keras, OpenCV, GitHub, Docker, Selenium, HTML, Crontab, AWS S3, Raspberry pi, and Arduino camera

Research Assistant January 2018-May 2018

- Analyzed a dataset provided by Department of Surgery at USC's Keck School of Medicine so as to identify features associated with graft survival after orthotopic liver transplantation (OLT).
- Utilized statistical methods, NNs, and SVM to predict graft survival after OLT using pre-transplant features.
- Hyun Jun Choi, Yujia Deng, Ana Farzindar Predict Graft Survival after OLT using Pre-Transplant Features using machine learning and statistical method (2018) [Report]
- Utilized: Python, LaTeX

Research Assistant January 2018-December 2018
University of Southern California, Los Angeles, U.S.

- Conducted research on generalization properties of Neural Networks (NNs).
- Investigated ways to improve generalizability of NNs across more than one hundred real-world datasets, using Keras library in Python.

Research Assistant January 2013-April 2014
Image Informatics Lab Inha University, Incheon, South Korea

- Conducted a research project titled "Classification of Synthetic and Real Image using Pattern Features Research".
- Evaluated performance of proposed image featuring algorithm based on Support Vector Machine (SVM) using Matlab.
- Published paper titled "Classification of Synthetic and Real Images Using Pattern Features" (2014) [English, Korean]

PROJECTS

Personal Website: https://hyunjuna.github.io (for additional information and projects)

Robotics August 2021-December 2021

- Implemented Kalman Filter, Monte Carlo Localization, Inverse Kinematics, RRT for Path Planning, RRT for a 6-DOF robotic manipulator, and RRT with a Task Space Region (TSR) constraint.
- Tested implemented algorithms on a simulator and on a real robot
- Utilized: ROS, Python, and KINOVA JACO & MACO

Deep Learning for Games August 2021-December 2021

- Conducted project on Game AI driver based on deep learning models. [GitHub]
- Trained and tested deep learning algorithms to create AI agent that can drive as a well-trained human player
- Generated a dataset by using game called GTA 4
- Utilized: Python, TensorFlow, Keras, Docker, Google Cloud Platform