Min Hoi(Daniel) Song

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Area of Interest

Computer Vision, Computer Graphics, Robotics Perception

Education

University of Minnesota, Twin Cities(Aug 2017 – May 2019)

- College of Science and Engineering, Computer Science
- Major GPA 3.365/4.0, Cumulative GPA 3. 365/4.0
- Course work:
  Spring 2019:
  Introduction to Machine Learning, Introduction to Data Mining, Computer Vision
  Fall 2018(Dean's List): Formal Language and Automata, Program Design/Development, Intro to Intelligent Robotics, Practice of Database Systems

Saint John's University(Aug 2013 – May 2014, **Transferred out**)

- College of Art and Science, Computer Science
- Major GPA 3.78/4.0, Cumulative GPA 3.5/4.0
- Course work: Software Development(CSCI230)

Skills

Programming Language/Deep Learning Framework/API

- C, C++, Java, Python
- ROS
- Tensorflow, Pytorch

Version Control System

- Git

Project & Research

Fast Human Pose Estimation (June 2019 – Current/Korea Institute of Science and Technology)

- Implement algorithms and build deep learning model, using Tensorflow framework
  - Idea inspired from Pose Proposal Network(ECCV18)
- Research on faster human pose estimation algorithm, using MobilenetV2, BlazeBlock, and different human joint parsing algorithms and different deep learning model
- Planning to deploy the algorithm and model on a mobile robot arms(Open Manipulator)

HUMBI 1.0: HUman Multiview Behavior Imaging dataset (Dec 2018 – May 2019/University of Minnesota)

- Research on minimize the 3d reconstruction error of physics-simulated cloths with 3d reconstructed cloth from the multi-view images
- Built human behavior dataset from multi-view images(3d human keypoint, body surface and cloth reconstruction)

Whose is This: Baxter pick and place variations(Sep 2018 – Dec 2018/CSCI5551-University of Minnesota)

- Built face recognition feature for robot's person classification, and color block detection
- Integrated face recognition, color block detection and pick/place operations to into Baxter, using ROS
- Managed work schedules and distributed workloads as the leader of the team

New Heaven Urgent Care Database Design(Sep 2018 – Dec 2018/CSCI4707-University of Minnesota)

- Designed database system, using ER/EER Diagram
- Created the database system within the description specifications, using MySQL
- Tested the specifications, using MYSQL
- Managed work schedules and distributed workloads as the leader of the team

Choose My College(Jan 2017 – May 2017/CSCI230-Saint John's University)

- Leader/Member of college recommendation application
- Programmed a simple web-based application using Java, JSP, HTML and MySQL
- Managed and programmed in database access(JSP, MySQL) that users are able to manage college preferences, stored preferred college lists, different users

Omni-Directional Adaptive Cruise Control(July 2012 – Nov 2012)

- Organized orientation/regular meeting to explain the purpose of the project
- Research on Advanced Cruise Control, which detects car and objects not only from front and back, but also diagonal or various directions, using C language with Atmel micro controller
- Research Paper was adopted by International Conference on Ubiquitous Robots and Ambient Intelligence(Daejon, South Korea, 2012)

Activity

Self-Driving Car Club(Sep 2016 – May 2019)

- Investigating the virtual environment for self-driving car algorithm implementation, using behavior cloning, and suggesting Udacity's simulator for the team
- Learning Deep Q-Learning algorithm with the team for the further self-driving car algorithm implementation

Robotics Club(Aug 2016 – May 2017)

- Programmed ultrasonic/laser/color sensor and motors to object/lane detection and moving, using Java and EV3 API as a member of the team
- Objective was to follow the lanes, detect, avoid objects, until reach the final destination and achieve the goal(golf putting)

Work Experience

Research Scientist/Internship(June 2019 – Current, Seoul, South Korea)

- Internship at Korea Institute of Science and Technology(KIST)
- Research on fast human pose estimation algorithms with different deep learning networks and models to achieve real time estimation(100FPS with a single GPU)

Library Database Usage Analyst(Jan 2014 – May 2014, Saint John's University)

- Analyze/report library database usages to manage limited budgets more efficiently for renewing library database licenses of accessing articles, documents, etc.
- Work independently with supervisor. Report results once a week.

Other Skills & Experiences

Language

- Fluent in English and Korean

Military Service(July 2014 – April 2016, Republic of Korea, Army)

- Served 21 month in the 1st Corps