ZHEKAI (SCOTT) JIN

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EDUCATION

The Cooper Union for the Advancement of Science and Art

Bachelor in Electrical Engineering - Computer Engineering track *Projected June 2019*

Grades Major GPA: 3.84/4.00 Overall GPA: 3.66/4.00

Honors Tau Beta Pi, Dean's List, School Honors, Half Tuition Scholarship, Innovation Merit

PROFESSIONAL EXPERIENCE

Momenta.ai : Lidar Research & Development Intern May - Aug. 2018

Lidar Team & HD map Team on an end-to-end Lidar Perception system *Beijing, China*

· Devised efficient Ground Detection and Lane Clustering & Segmentation algorithms with 98% precision
· Refactored Object Segmentation Modules with 20% memory usage drop by specialized data structures
· Designed and implemented a robust Real-Time Object Tracking pipeline which is able to track even sparse point clouds based on 3D Interpolation, now deployed at Momenta's L4 self-driving solution

Totem Power Inc. : System Research & Development Intern Jun. - Aug. 2017

Independent Research Project on a complete wireless charging system for Drones *Bedford Hills, NY*

· Designed monocular-vision-based precise landing algorithm to counter the charging range limitation
· Developed REST APIs and distributed real-time charging status monitoring system with visualization

Didi Chuxing Inc. : Software Development Intern Apr. - Jun. 2017

Dispatch Team on order dispatching and dynamic pricing *Hangzhou, China*

· Worked on automatic feature extraction on probabilistic time series forecasting model (PCA, LSTM)
· Turned Redis sentinel mode to proxy + consistent hashing mode with Redis latency reduced by 20%
· Automated tests with TestNG and Mockito and reached code coverage of 99%

ACADEMIC PROJECTS

Cooper Mapper: Self-Driving Robot with MultiSensor Data Fusion Sept. 2018 - Present

· Implemented real-time Lidar SLAM (Planar) and VSLAM (Stereo) based on ORBSLAM & GMapping
· Refactored and extended LOAM to support map management, relocalization, and ROS nodelet
· Working on robust resolution matching algorithms to reduce extrinsic multisensor calibration

Tap News: Real-Time News Scraping and Recommendation System Mar. - May. 2018

· Implemented a data pipeline which monitors, scrapes and dedupes latest news (Redis, RabbitMQ)
· Built a web application for users to browse news (React, Node.js, RPC, SOA, JWT)
· Implemented a click event log processor which collects users click logs to update preference models
· Designed and built an offline training pipeline for news topic modeling (Tensorflow, DNN, NLP)
· Deployed an online classifying service for news topic modeling using the trained model

Pass2act: Passive Voice to Active Voice Article Converter Mar. 2018

· Rated the best Natural Language Processing final project of the 2017 - 2018 academic year
· Designed decision tree able to handle conjugation & embedded passive sentences based on linguistics
· Built visualization rendering the transformation process with dependency parsing (spaCy, Python)

Cooper-IoT: Generic IoT Platform with Telepresence Utilty Jun. - Dec. 2017

· Led a team of five designing IoT network for study of population flow with a stochastic queuing model
· Implemented real-time acquisition for WiFi & Bluetooth address and peripheral parameters. (Python)
· Designed human detection algorithm with OpenCV to monitor population flow and human counting
· Implemented real-time scheduler of lighting & heat with data and Achieved average 2% energy saving
· Realized Telepresence by presenting Mixed Reality and Stereo Rendering: integrating camera feed from robots & peripheral environmental data to head-mounted displays (S-PTAM, Unity, C#, C++)

COMPUTER SKILLS

Languages	C++, C, Java, Python, Go, Matlab, HTML5, CSS3, JavaScript, SQL, Shell Scripting
Technology	MRPT, PCL, g2o, gtsam, Webots, scikit-learn, NLTK, PyTorch, Kafka, Hadoop, Spark
Training	Robotics Software Engineer Nanodegree, Self Driving Engineer Nanodegree @ Udacity