ZHENGJIE JI

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EDUCATION

Master's Degree (In Progress) 2020/08 - 2022/06
KTH Royal Institute of Technology, Stockholm, Sweden
Major: Machine Learning
Relevant Coursework: Data Mining, Deep Learning in Data Science, Machine Learning Advanced Course

Bachelor's Degree 2017/09 - 2021/08
Shanghai Jiao Tong University, Shanghai, China
Major: Electrical and Computer Engineering
Relevant Coursework: Introduction to Cryptography, Intro to Artificial Intelligence, Intro to Computer Organization

RESEARCH EXPERIENCE & PUBLICATIONS

Research Internship 2021/05 - Present
Department of Computer Science, Virginia Tech

- **Project**: ThreatQA: Cyber Security Question Answering System
  Instructor: Peng Gao
  Status: Preparing for submission as the first author, targeting VLDB 2022
  Summary: This paper proposed ThreatQA, a knowledge base question answering (KBQA) system that can help threat analysts answer factual questions. The main contributions are a QA dataset in computer security, an efficient and accurate system for question answering, and a user interface.

Course Project 2021/01 - Present
School of EECS, KTH Royal Institute of Technology

- **Project**: Classification of Anomalies in Underwater Pipeline Images
  Instructor: John Folkesson
  Summary: In this project, we designed a neural network model to classify images as containing things of interest, such as cracks, joints, and anodes along underwater pipelines. We also performed a semantic segmentation task on the dataset. The evaluation shows that the model outperforms famous backbones such as ResNet-18.

Research Assistant 2021/04 - 2021/09
UM-SJTU Joint Institute, Shanghai Jiao Tong University

- **Project**: A Hybrid Queuing Model for Coordinated Vehicle Platooning on Mixed-Autonomy Highways
  Instructor: Li Jin
  Summary: This research proposed a hybrid queuing model for a mixed-autonomy highway section and developed an easy-to-use training algorithm. The model predicts CAV and non-CAV counts according to the traffic demand as well as critical parameters of the highway section. The training algorithm learns the highway parameters from observed data in real-time. The proposed model and algorithm can directly support model-predictive decision-making for platooning in mixed autonomy.

Thesis Project 2021/05 - 2021/08
UM-SJTU Joint Institute, Shanghai Jiao Tong University

- **Project**: 3D Bounding Box Detection by Video Processing
  Instructor: Peisen Huang
  Summary: This project proposed a geometric-based method to detect 3D bounding boxes for vehicles. Our method involves deep learning and automatic camera calibration techniques. The evaluation shows that the 3D bounding boxes generated are accurate concerning the objects' dimensions and orientations.