DANCHENG LIU

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EDUCATION BACKGROUND

University of California: San Diego, La Jolla, CA   09/2018 - 06/2021 (Expected)
- Bachelor of Science, Computer Science; accumulative GPA: 3.55/4

PUBLICATION

K. Ergun, R. Ayoub, P. Mercati, **D. Liu,** T. Rosing. *"Energy and QoS-Aware Dynamic Reliability Management of IoT Edge Computing Systems"*; expected to be published in ASP-DAC 2021

RESEARCH EXPERIENCE

Research Assistant in UCSD System Energy Efficiency Lab   01/2020 – 09/2020
- Collaborated with graduate researcher Kazim Ergun, under the supervision of Professor Tajana Rosing, to conduct research on methodologies of minimizing energy consumption and maximizing reliability on edge devices in IoT systems
- Proposed to use a novel dynamic reliability management (DRM) technique to solve the problem
- Designed "no ERC-ETC" approach and analyzed prior works with a focus on DREAM architecture
- Used DREAM as a comparison to the final solution, which should significantly reduce energy consumption and increase reliability for edge devices in IoT systems with multiple devices while maintaining QoS constraints

PROJECT

Business Analyst in ASAP for CSE 110   03/2020 - 06/2020
- ASAP, AutoScheduler Assist Program, is a website that aims to reduce workload for UCSD students during the course selection process. ASAP allows the students to input a list of classes and classify them as must-takes or want-to-takes and then generates the optimized schedule according to user preferences
- Worked in a team of ten as business analyst and main provider for the algorithm in generating the schedule
- The GitHub link for source code is: https://github.com/bal031/ASAP

Self-Hosted Website for CSE 135   08/2020
- Built a server to host homework submission using support from Digital Ocean; the server uses Apache2 and REST API with multiple languages
- Built a website for analyzing traffic to my website using support from Zinggrid
- The website for homework is: http://danchengliu.site/
- The website for data analysis is: http://reporting.danchengliu.site/ (require logging in)

PRACTICAL EXPERIENCE

Co-Founder of Wuxi Paoba Intelligent Technology Co., Ltd.   2015 - 2019
- Added data collection and analysis features to upgrade traditional physical measuring equipment
- Enabled users to obtain their data via mini programs in WeChat (a Chinese multi-purpose messaging, social media and mobile payment app)
- Provided suggestions on data transmission from equipment to the cloud
- Minimized packet losses with TCP/IP protocols to optimize consistency and reliability during data transmission process
- Company website: http://www.paobapaoba.com/

A Salary Analysis Program for Wuxi De'er, an Audi dealer   08/2018
- Developed a Java program that summarizes and illustrates the salary expenses tendency for thousands of people in a one-year period
- Users can select the specific data from more than a hundred different indexes
- The inputs are pre-organized Excel files, and the outputs are merged Excel files with separate graphs to illustrate the trend

SKILLS

Java, C++, C, Assembly, Verilog, Haskell, Linux, Unix commands, Vim, Git; proficient in web development