

INTRO

Researcher and systems engineer with expertise in delivering Lab-to-Market solutions, including Autonomous driving systems, Cyber-Physical systems, data modeling, Internet of Things, and mobile systems.

WORK EXPERIENCE

Senior SDK / Simulation / Perception Engineer, Inceptio | Fremont, CA, USA

Jan 2019 – Now

- Lead the design and implementation of the simulation/debugging core and evaluation system.
We introduce an interface layer between the application and DDS layers so that the simulation mechanism can execute each module following the predefined sequence. We implement a simulation scheduler to correlate each application module running on a single machine or distributed AD system (multi-chip).
- Large-scale regression test on the cloud.
Design the pipeline with the infra team to large-scale the regression test on cloud platforms.
- Design and implementation of the hardware testing platform.
We connect our ADU (onboard hardware platform) to the cloud and build our in-house testing pool. This testing instructs support queuing, executing, and result collection. Users can create, monitor, control, and terminate jobs using IDE and WEB tools.
- Develop Lidar and Radar driver and onboard sensor pipeline.
Build node on DDS to process radar and lidar sensor.
- Sensor auto-calibration methods.
Build pipeline and algorithm to calibrate the camera to IMU radar to IMU.
- Design / Implement tools for perception.
Build sensor data replay tool and local deterministic debug tool for fusion.

Software Engineer, Lattice-Engines | San Mateo, CA, USA

July 2018 – Jan 2019

- Work on a lead-based recommendation system based on Java-Spring Framework, conducting API implementation of data cloud services.

Research Assistant, Columbia University | New York, NY, US

Jan 2016 – Dec 2017

- Intelligent and Privacy-Preserving Medication Adherence System;
- GPS-based Million Second level Time Synchronization System;
- Wireless Indoor Localization System;
- A Sun Exposure Sensing System for indicating the risk of exposure under the current density of UV from the Sun.
- Smart Power Meter for Solar System;
- Standalone Offline Power Grid Control System;

Director of Engineering, Air Scientific Beijing | Beijing, China

May 2014 – May 2015

- Designed, manufactured, and deployed two generations of low-cost air quality sensors across Beijing, handed into the firmware implementation in C, backend data analysis system in Python, and production chain design.

Researcher, System Engineer, China Intel IoT Joint Labs | Beijing, China

Nov 2011 – May 2014

- Develop low-cost air quality sensors, *automation sensor calibration systems*, distributed *data transmission systems*, and modeling sensing *data*.
- Design an automatic sensor calibration system for particle sensors.
- Managing early-stage sensor production and testing in the factory.

EDUCATION

Columbia University, *Master of Science in Computer Engineering* | New York, USA

Jan 2017 – Dec 2017

- Relevant coursework: Operating Systems, Computer Architecture, Software Engineering

SKILLS and INTERESTS

- Programming: C, C++, C#, Java, JavaScript, Python, Matlab, x86 Assembly.
- Tools & Environments: Linux, Windows, Visual Studio, Keil, AutoDesk Inventor.
- Interests: Sensing Systems, Real-time Systems, Data Analysis, Modeling, Software Engineering, Sensor Design, Wireless Networks, Embedded Systems, Product Design, and Industrial Engineering.

SELECTED PUBLICATIONS

2018 **MDPI Sensors – Conductive Thread-Based Textile Sensor for Continuous Perspiration Level Monitoring**

- Ji Jia, Chentian Xu, Shijia Pan, Stephen Xia, Peter Wei, Pei Zhang, HY Noh, Xiaofan Jiang

2018 **ACM Ubicomp'18 CPD – Moisture-Based Perspiration Level Estimation**

- Ji Jia, Chentian Xu, Shijia Pan, Stephen Xia, Peter Wei, Pei Zhang, HY Noh, Xiaofan Jiang

2018 **ACM Ubicomp'18 CPD – Imputation of missing data in time series for air pollutants using Long-Short-Term Memory Recurrent Neural Networks.**

- Guoming Xu, Zijian Yao, Ji Jia, Yiwen Zhang

2018 **ACM/IEEE CHASE'18 – Intelligent and Privacy-Preserving Medication Adherence System**

- Ji Jia, Jinyang Yu, Raghavendra Sirigeri, Stephen Xia, Peter Wei, Hyunmi Choi, Xiaofan Jiang

2017 **ACM/IEEE IoTDI'17 – Demo: A Low-Cost Wearable Sunlight Exposure Monitor for Skincare**

- Daniel de Godoy, Ji Jia, Xiaofan Jiang

2014 **ACM SenSys'14 – A Cloud-based Air-Quality Monitoring System for Everyone**

- Yun Cheng, Xiucheng Li, Ji Jia, Peipei Yang, Jixian Zhang, Xiaofan Jiang

2014 **ACM HotMobile'14 – An Autonomous Aerial System for Air-Quality Surveillance and Alarm**

- Yun Cheng, Xiucheng Li, Ji Jia, Jixian Zhang, Kejia Lin, Yilong Li, Xiaofan Jiang

2013 **ACM Mobisys'13 – Demo: Low-Cost Personal Air-Quality Monitor**

- Xiaofan Jiang, Ji Jia, Gansha Wu, Jesse Fang

2013 **Mechatronics and Intelligent Materials – Device Controller Design Based on Internet of Things**

- Yiwen Zhang, Ji Jia, Jingming Li, Jiaying Cheng

PATENTS

Estimating Target Heading Using a Single Snapshot

(No. US 2023/0384441 A1)

Estimating Three-Dimensional Target Heading Using a Single Snapshot

(No. US 2023/0884442 A1)

Textile Sensor Assemblies

(No. US 2021/0085237 A1)

Intelligent Control System for Household Appliances

(Chinese Patent No. ZL 2011 2 0197881.2)

Scene Reproduction Technology Based on Online Indexing

(2022 CN115098552A Pending)

An Online Estimation Method for the Installation Angle of Vehicle Radar Based on Doppler Elements

(2022 CN115327493A Pending)

Method for Estimating Lateral Slip of Truck Trailers In Autonomous Driving System

(2022 CN115339462A Pending)

PPS Synchronization Frequency Multiplier Signal Generator for Sensor Trigger

(2022 CN115514346A Pending)

Enhancing Lateral Stability When the Driver Takes Over Directional Control by Adding Dynamic Damping

(2022 CN115535077A Pending)

Real-time Monitoring and Dynamic Task Allocation System and Method for Testing Resources

(2022 CN115689157A Pending)

An Event-Driven Onboard Scheduling Method on the ADAS system

(2022 CN116501465A Pending)