Jingxuan (Jensen) Zhang

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RESEARCH INTERESTS

Networking resources abstraction and optimization
Software-defined networking
Networks for large-scale data analytics

PROJECT EXPERIENCE

OpenDaylight ALTO

Project Contact, 2015 - present

- Official open source implementation of the Application-Layer Traffic Optimization (ALTO) protocol.
- Designed and Implemented the main building blocks of ALTO in OpenDaylight.
- Manage the project in the OpenDaylight community and review the code.
- Created OpenALTO community (https://github.com/openalto/).

Unicorn: Unified Resource Orchestration for Multi-Domain, Geo-Distributed Data Analytics

Architect and Contact, August - November 2017

- The first multi-domain, multi-controller orchestration system for scientific data analytics.
- Coordinated with the collaborators from CERN, Caltech and Starlight to deploy the system in Caltech HEP Data Center.
- Demonstrated the prototype in SuperComputing 2017.

Devopen: SDN IDE

Project Lead, 2016 - 2017

- The first IDE supporting visual programming for Software-Defined Networking.
- Integrate the complete SDN lifecycle of Dev, Op and Use.
- Gaven the tutorial and demonstration in OpenDaylight Summit 2016 and SuperComputing 2016.

SeL4-based HD-ElastOS (Kortide, Shanghai)

Intern, Octobor 2014 - April 2015

- A Component Assembly Runtime (CAR) embedded operating system on top of state-of-the-art micro kernel.
- Ported micro-kernel seL4 to some specific hardware platforms (pandanboard, lamobo M1, etc.).
- Ported ElastOS on top of seL4.

EDUCATION

Yale University

Visiting Assistant in Research (Computer Science), 2018.11 - now

Tongji University

Ph.D. Student (Computer Science), 2017.03 - now

Master Student (Computer Science), 2015.09 - 2017.03

B.Sc. (Computer Science), 2013.03 - 2015.07

Undergraduate Student (Mathematics), 2011.09 - 2013.01

AWARDS

First prize in Chinese National Undergraduate Mathematics Competition 2012.

Honor Mention prize in ICM/MCM 2014.

Second prize in Chinese National Undergraduate Electronic Design Contest 2014.

PUBLICATIONS

1. Xiang, Q., **Zhang, J.**, Wang, X., Liu, J., Guok, C., Le, F., MacAuley, J., Newman, H. and Yang, Y.R. 2018. Fine-Grained, Multi-Domain Network Resource Abstraction as a Fundamental Primitive to Enable High-Performance, Collaborative Data Sciences. In the *International Conference for High Performance Computing, Networking, Storage and Analysis (SC)*, ACM.
2. Gao, K., **Zhang, J.**, Yang, Y.R. and Bi, J. 2018. Prophet: Fast Accurate Model-based Throughput Prediction for Reactive Flow in DC Networks. In the *37th IEEE International Conference on Computer Communications (INFOCOM)*, IEEE, 720-728.
3. Xiang, Q., Wang, X., **Zhang, J.**, Newman, H., Yang, Y.R. and Liu, J. 2017. Unicorn: Unified Resource Orchestration for Multi-Domain, Geo-Distributed Data Analytics. In the *4th International Workshop on Innovating the Network for Data Intensive Science (INDIS)*, IEEE.
4. Wang, W., **Zhang, J.**, Guo, D., Xiang, Q., Huang, C., Chang, J. and Zhang, L. 2016. Towards an emerging cloudware paradigm for transparent computing. In the *9th IEEE/ACM International Conference on Utility and Cloud Computing (UCC)*, IEEE, 43-48.

PROGRAMMING SKILLS

Very experienced with development in OpenDaylight.

Familiar with full-stack web development.

Familiar with embedded programming.

BIOGRAPHY

Jingxuan Zhang is a PhD candidate in the Department of Computer Science at Tongji University, advised by Prof. Y. Richard Yang. His doctoral research focuses on network resource discovery, abstraction and programming consistency for large-scale data analytics systems. He is also an active member of IETF ALTO WG and OpenDaylight open source community. He is sponsored by China Scholarship Council to be a joint PhD student at Yale university from 2018 to 2020.

Details for me, visit my homepage in github: https://fno2010.github.io/