Yuanwen Tian

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Current Position

Center for Vision, Cognition, Learning and Autonomy (VCLA), UCLA *Jul 2018 – present*
Undergraduate Research Assistant

Education

Huazhong University of Science and Technology (HUST) *Expected: Jun 2019*
B.E., Electrical Engineering and Automation
Overall Score: **92.8/100** Class Rank: **1/28** School Rank: **5/354**

University of California, Los Angeles (UCLA) *Jul 2018 – Sept 2018*
UCLA-CSST Research Program
Course Grade: **A+**

Tests

- GRE General Test **331** (V 161 Q 170 AW 4) *Jul 2017*
- TOFEL iBT **106** (R 30 L 28 S 22 W 26) *Oct 2018*
- TOFEL iBT **105** (R 30 L 30 S 20 W 25) *Mar 2018*

Publications (Journal Papers)

Y. Miao, **Yuanwen Tian**, L. Peng, M. S. Hossain, G. Muhammad, "Research and Implementation of ECGbased Biological Recognition Parallelization", *IEEE Access*, vol. 6, pp. 4759–4766, 2017. DOI: 10.1109/ACCESS.2017.2771220.

M. Chen, **Yuanwen Tian**, G. Fortino, J. Zhang, I. Humar, "Cognitive Internet of Vehicles", *Computer Communications*, vol. 120, pp. 58-70, 2018. DOI: 10.1016/j.comcom.2018.02.006.

Y. Miao, **Yuanwen Tian**, J. Cheng, M. S. Hossain, A. Ghoneim, "RADB: Random Access with Differentiated Barring for Latency Constrained Applications in NBIoT Network", *Wireless Communications and Mobile Computing*, 2018. DOI: 10.1155/2018/6210408.

Yuanwen Tian, J. Yang, J. Lu, C. Han, Z. Wei, "Cognitive Vehicular Ad Hoc Networks", *IEEE MMTC Communications Frontiers*, vol. 12, no. 2, pp. 37-40, March, 2018.

Y. Hao, Y. Miao, **Yuanwen Tian**, L. Hu, et al., "Smart- Edge-CoCaCo: AI-Enabled Smart Edge with Joint Computation, Caching, and Communication in Heterogeneous IoT", *IEEE Network*, **under review**, manuscript: NETWORK-18-00235.R2.

M. Chen, **Yuanwen Tian**, "iTaskOffloading: AI-Enabled Task Offloading over Smart Edge: A Case Study on Emotion Detection", **submitted** to *IEEE Network*, I will be the **co-first author**, manuscript: NETWORK-18-00486.

M. Chen, **Yuanwen Tian**, "Joint Optimization of Computation, Communication, Caching in Cooperative Unmanned Ariel Vehicles Networks", **will be submitted** to *Information Fusion*, I will be the **co-first author**.

Publications (Conference Papers)

W. Li, J. Lu, Y. Xu, Z. Wei, **Yuanwen Tian**, Y. Miao, "Wireless Cooperative Caching in Device to Device Networks: Simulation and Modeling", *12th EAI International Conference on Testbeds and Research Infrastructures for the Development of Networks & Communities* (TRIDENTCOM 2017), 2017. **(Best Student Paper Award)** DOI: 10.4108/eai.2892017.2273362.

J. Yang, Y. Miao, C. Han, **Yuanwen Tian**, X. You, Y. Jiang, "OPPOCO: From Ad Hoc Cloudletassisted Edge Computation to Opportunistic Computation Offoading", *12th EAI International Conference on Testbeds and Research Infrastructures for the Development of Networks & Communities* (TRIDENTCOM 2017), 2017. DOI: 10.4108/eai.2892017.2273365.

Presentation

Yuanwen Tian, Z. Xu, H. Wang, T. Gao, "Model-Based Trajectory Planning through Generic Nonlinear Programming", *UCLA--CSST Summer Research Program Meeting*, **Poster presentation**, September, 2018.

Research Experience

Center for Vision, Cognition, Learning and Autonomy (VCLA), UCLA *Jul 2018 – present*
Research Assistant
Advisor: Professor Tao Gao

Project 1: Model-Based trajectory planning through generic nonlinear programming

- Participated in building trajectory optimization library using CMake and C++
- Implemented robotic motion planning with constraints using MuJoCo (Multi-Joint dynamics with Contact) physics engine and IPOPT (Interior Point OPTimizer) solver
- Evaluated our trajectory library on two task scenarios (random-target and collision-free) and three models (inverted pendulum, inverted double pendulum and cart pole)

Project 2: Physical-Mind joint inference system

- Modeled chasing scenario using MuJoCo physics engine to test human perception
- Implemented various physical attributes on MuJoCo (such as weight, force, tendon type, etc.)
- Rendered trajectories in both tendon-visible and tendon-invisible ways as comparision

Embedded and Pervasive Computing Division (EPIC), HUST *Nov 2016 – present*
China International Joint Research Center of Green Communications and Networking
Research Assistant
Advisor: Professor Min Chen

Project 1: Emotion communication and affective computing

- Implemented experiments on ECG based biological recognition parallelization
- Participated in designing AIWAC Robot (Affective Interaction through Wide-Learning And Cognitive Computing) based on emotion communication

Project 2: Data driven computing and caching in 5G networks

- Evaluated edge cognitive computing platform for Internet of Things applications, such as autonomous driving.
- Leveraged joint optimization of computation, communication and caching for IoT applications, such as Emotion Detection, Unmanned Ariel Vehicles (UAV), etc..

Awards and Scholarship

International-level

- Best Student Paper Award for 12th EAI International Conference on Testbeds and Research Infrastructures for the Development of Networks & Communities (TRIDENTCOM 2017) *Sept 2017*

National-level

- China National Scholarship, awarded by Ministry of Education of China & Ministry of Finance of China (The highest level of academic scholarship in my country) *Oct 2016*

University-level

- Technology Innovation Award, Huazhong University of Science and Technology *Sept 2018*
- Academic Excellent Scholarship, Huazhong University of Science and Technology *Sept 2018*
- UCLA-CSST Scholarship (Cross-disciplinary Scholars in Sciencs and Technology), University of California, Los Angeles *Jul 2018*
- Si Yuan EE Scholarship, Huazhong University of Science and Technology *Apr 2018*
- Merit-Student Scholarship, Huazhong University of Science and Technology *Oct 2017*
- Outstanding Undergraduates (top 1%), Huazhong University of Science and Technology *Dec 2016*
- Merit-Student Scholarship, Huazhong University of Science and Technology *Oct 2016*
- Si Yuan EE Scholarship, Huazhong University of Science and Technology *Apr 2016*