

ZEHUA (DAVID) WANG

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WORK EXPERIENCE

The University of British Columbia, Vancouver, Canada Adjunct Professor, Department of Electrical & Computer Engineering, Faculty of Applied Science	Jan. 2019 – Now
Intellium Technology Inc., Canada Chief Technology Officer and Principal Consultant	May 2018 – Now
RightMesh Project, Left Technologies Inc., Maple Ridge, Canada Chief Micropayments Scientist (blockchain)	Jan. 2017 – May 2019
The University of British Columbia, Vancouver, Canada Postdoctoral Research Fellow	Feb. 2017 – Aug. 2018

EDUCATION

The University of British Columbia, Vancouver, Canada Doctor of Philosophy in Electrical & Computer Engineering	Sep. 2012 – Dec. 2016
Memorial University, St. John's, Canada Master of Engineering in Electrical & Computer Engineering	Sep. 2009 – Nov. 2011
Wuhan University, Wuhan, China Bachelor of Engineering in Software Engineering	Sep. 2005 – Jul. 2009

HONORS AND AWARDS

Final List of NSERC Postdoctoral Fellowship	2016
Chinese Government Award for Outstanding Self-Financed Students Abroad	2015
Graduate Support Initiative Award at UBC	Sep. 2015 - Apr. 2016
Graduate Support Initiative Award at UBC	Sep. 2014 - Apr. 2015
Four Year Fellowship at UBC	Sep. 2012 - Aug. 2016
1st place in Facebook Hackathon on VR App Design, Facebook, Inc.	Feb. 2014
Wireless Communication Lab Fellowship at MUN	Sep. 2009 - Aug. 2011
Outstanding Bachelor Thesis Award from Ministry of Education of Hubei Province	Jul. 2009

PUBLICATIONS

Patents

- Jason B. Ernst and **Zehua Wang**, “Mesh Communications Network Having Mesh Ports,” *US Provisional Patent*, Worldwide Application, WO2019036791A1.

Book Chapters

- Yong Zhou, Zhiyu Dai, Xiaolei Hao, Man Hon Cheung, **Zehua Wang**, and Vincent W.S. Wong, “Coalition Formation Games for Cooperative Spectrum Sensing in Cognitive Radio Networks,” *Handbook of Cognitive Radio*, Springer, (ISBN 978-981-10-1394-2).

Journal Papers

- Wei Cai, **Zehua Wang**, Jason B. Ernst, Zhen Hong, Chen Feng, and Victor C.M. Leung, “Decentralized Applications: The Blockchain-Empowered Software System,” *IEEE Access*, vol. 6, pp. 53019–53033, Sep. 2018.
- He Zhang, **Zehua Wang**, and Qinghe Du, “Social-aware D2D relay networks for stability enhancement: An optimal stopping approach,” *IEEE Transactions on Vehicular Technology*, vol. 67, no. 9, pp. 8860–8874, Sep. 2018.
- Zhen Hong, **Zehua Wang**, Wei Cai, and Victor C.M. Leung, “Blockchain-Empowered Fair Computational Resource Sharing System in the D2D Network,” *Future Internet*, vol. 9, no. 4, pp. 85–105, Nov. 2017.
- **Zehua Wang**, Derrick W.K. Ng, Vincent W.S. Wong, and Robert Schober, “Robust beamforming design in C-RAN with sigmoidal utility and capacity-limited backhaul,” *IEEE Transactions on Wireless Communications*, vol. 16, no. 9, pp. 5583–5598, Sep. 2017.
- Boxi Liu, Tao Jiang, **Zehua Wang**, and Yang Cao, “Object-oriented network: A named-data architecture towards the future Internet,” *IEEE Internet of Things Journal*, vol. 4, no. 4, pp. 957–967, Aug. 2017.
- **Zehua Wang**, Hamed Shah-Mansouri, and Vincent W.S. Wong, “How to download more data from neighbors? A metric for D2D data offloading opportunity,” *IEEE Transactions on Mobile Computing*, vol. 16, no. 6, pp. 1658–1675, Jun. 2017.
- Suyang Duan, Vahid Shah-Mansouri, **Zehua Wang**, and Vincent W.S. Wong, “D-ACB: Adaptive congestion control algorithm for bursty M2M traffic in LTE networks,” *IEEE Transactions on Vehicular Technology*, vol. 65, no. 12, pp. 9847–9861, Dec. 2016.
- Guanghua Liu, **Zehua Wang**, and Tao Jiang, “QoS-aware throughput maximization in wireless powered underground sensor networks,” *IEEE Transactions on Communications*, vol. 64, no. 11, pp. 4776–4789, Nov. 2016.
- Zhiyu Dai, **Zehua Wang**, and Vincent W.S. Wong, “An overlapping coalitional game for cooperative spectrum sensing and access in cognitive radio networks,” *IEEE Transactions on Vehicular Technology*, vol. 65, no. 10, pp. 8400–8413, Feb. 2016.
- **Zehua Wang** and Vincent W.S. Wong, “Optimal access class barring for stationary machine type communication devices with timing advance information,” *IEEE Transactions on Wireless Communications*, vol. 14, no. 10, pp. 5374–5387, Oct. 2015.
- **Zehua Wang**, Yuanzhu Chen, and Cheng Li, “PSR: A lightweight proactive source routing protocol for mobile ad hoc networks,” *IEEE Transactions on Vehicular Technology*, vol. 63, no. 2, pp. 859–868, Feb. 2014.
- **Zehua Wang**, Yuanzhu Chen, and Cheng Li, “CORMAN: A novel cooperative opportunistic routing scheme in mobile ad hoc networks,” *IEEE Journal on Selected Areas in Communications*, vol. 30, no. 2, pp. 289–296, Feb. 2012.
- **Zehua Wang**, Yuanzhu Chen, and Cheng Li, “A novel loop-free routing scheme for opportunistic data forwarding in wireless networks,” *IEEE Communications Letters*, vol. 15, no. 11, pp. 1184–1186, Nov. 2011.

Conference Papers

- Xuan Luo, Wei Cai, **Zehua Wang**, Xiuhua Li, and Victor C. M. Leung, “A Payment Channel Based Hybrid Decentralized Ethereum Token Exchange,” in *Proc. of IEEE International Conference on Blockchain and Cryptocurrency* (Poster), Seoul, Korea, May 2019.
- Ziqiao Lin, **Zehua Wang**, Wei Cai and Victor C.M. Leung, “A novel game map preloading and resource provisioning scheme in cooperative cloud networks,” in *Proc. of IEEE International Conference on Cloud Computing Technology and Science (CloudCom)*, Hong Kong, Dec. 2017.

- Zhen Hong, **Zehua Wang**, Wei Cai, and Victor C.M. Leung, “Connectivity-Aware Task Outsourcing and Scheduling in D2D Networks,” in *Proc. of 26th International Conference on Computer Communications and Networks (ICCCN)*, Vancouver, Canada, Aug. 2017.
- He Zhang, Qinghe Du, Pinyi Ren, and **Zehua Wang**, “Social stability enhanced mobile D2D relay networks: An optimal stopping approach,” in *Proc. of IEEE International Conference on Communications (ICC)*, Paris, France, May 2017.
- Ziqiao Lin, **Zehua Wang**, Wei Cai and Victor C.M. Leung, “A Smart Map Sharing and Preloading Scheme for Mobile Cloud Gaming in D2D Networks,” in *Proc. of First International Workshop on Smart Multimedia (SmartMM)*, HongKong, May. 2017.
- **Zehua Wang**, Derrick Wing Kwan Ng, Vincent W.S. Wong, and Robert Schober “Transmit beamforming for QoE improvement in C-RAN with mobile virtual network operators,” in *Proceedings of IEEE International Conference on Communications (ICC)*, Kuala Lumpur, Malaysia, May. 2016.
- **Zehua Wang** and Vincent W.S. Wong, “A Novel D2D Data Offloading Scheme for LTE Networks,” in *Proc. of IEEE International Conference on Communications (ICC)*, London, United Kingdom, Jun. 2015.
- Bojiang Ma, Binglai Niu, **Zehua Wang**, and Vincent W.S. Wong, “Joint power and channel allocation for multimedia content delivery using millimeter wave in smart home networks,” has been published in *Proc. of IEEE Global Communications Conference (GLOBECOM)*, Austin, TX, Dec. 2014.
- **Zehua Wang** and Vincent W.S. Wong, “Joint access class barring and timing advance model for machine-type communications,” in *Proc. of IEEE International Conference on Communications (ICC)*, Sydney, Australia, Jun. 2014.
- **Zehua Wang**, Cheng Li, and Yuanzhu Chen, “Local cooperative relay for opportunistic data forwarding in mobile ad-hoc networks,” in *Proc. of IEEE International Conference on Communications (ICC)*, Ottawa, Canada, Jun. 2012.
- **Zehua Wang**, Cheng Li, and Yuanzhu Chen., “PSR: proactive source routing in mobile ad hoc networks,” in *Proc. of IEEE Global Communications Conference (GLOBECOM)*, Houston, TX, Dec. 2011.

Submitted

- Ziqiao Lin, Wei Cai, **Zehua Wang**, Qiang Liu, and Victor C.M. Leung, “Cooperative Data Preloading and Network Resource Provisioning for Mobile Games,” *IEEE Transaction on Mobile Computing*.

Under Reparation

- Heli Zhang, **Zehua Wang**, Chunyu Liu, Hong Ji, and Victor C.M. Leung, “When Blockchain Meet Future Communication Networks: A Survey,” *IEEE Communications Surveys & Tutorials*.
- Yulei Wu, **Zehua Wang**, and Victor C.M. Leung, “Private Blockchain in Industrial IoT: A Survey,” *IEEE Communications Surveys & Tutorials*.

ACADEMIC SERVICES

Journal Editorships

- Guest Editor for Special Issue: “Heterogeneous Cloud-Based Intelligent Computing for Next-Generation 5G Applications,” *ACM/Springer Mobile Networks & Applications (MONET)*

Technical Program Committee (TPC) Co-chairs of

- International Workshop on Smart Multimedia (SmartMM 2017, 2018).

Technical Program Committee (TPC) Member of

- IEEE International Conference on Computer Communications (INFOCOM) workshop on Integrating Edge Computing, Caching, and Offloading in Next Generation Networks, 2017.
- IEEE International Conference on Smart Computing (SMARTCOMP), 2017.
- IEEE International Conference on Communications (ICC), 2012 – 2019.
- IEEE Global Communications Conference (GLOBECOM), 2012 – 2019.
- IEEE Vehicular Technology Conference (VTC-Fall), 2012-2016