Xiangyu **Ren**

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Education

University of Electronic Science and Technology of China (UESTC) *Chengdu, China*
B.ENG IN AUTOMATION (CONTROL SYSTEM) *August. 2015 - 2019*
- Selected to Li Ren program (top 35 students)
- Involved in several research projects
- **Ranking**: 27/171,   **GPA**: 3.85/4
- **English Proficiency**:   IELTS 7.5   Reading: 9.0   Listening: 8.0   Speaking: 6.5   Writing: 6.0

University of Victoria (UVIC) *Victoria, BC, Canada*
PH.D. IN ELECTRICAL AND COMPUTER ENGINEERING *Sep. 2019 - 2023 (expected)*
- Joined CNLab as a M.Sc. student and later transferred to the Ph.D. program
- Supervisor: Lin Cai
- **GPA**: 8.71/9.0

Research Experience

Battery health management *UESTC*
STATE OF HEALTH ESTIMATION OF LITHIUM ION BATTERIES *Nov. 2017 - 2019*
- Analysis of the state-of-health pattern of Lithium-ion batteries
- Developed SoH prediction model for Lithium-ion batteries based on Gaussian process regression and transfer learning.

Image processing *UESTC*
SEMANTIC SEGMENTATION *April. 2018 - June. 2018*
- Developed a novel semantic segmentation model named Fully Convolutional Network based on Capsule Network.

Spatial-temporal prediction of spectrum usage pattern *UVIC*
DYNAMIC SPECTRUM ACCESS *Sep. 2019- Mar. 2020*
- Developed a novel spatial-temporal prediction model for spectrum distribution based on deep learning with sparse observations.

Network architecture design for next generation network *UVIC*
COMPUTER NETWORKS *April. 2020- present*
- Research on existing networking solutions and area: Software Defined Network (SDN), Deterministic Networking
- Next generation network architecture and protocol design

Publications

JOURNAL PUBLICATIONS *2018-Present*
- **Xiangyu Ren**, Hamed Mosavat-Jahromi, Lin Cai, David Kidston, *Spatio-temporal Spectrum LoadPrediction using Convolutional Neural Network and ResNet*, IEEE Transactions on Cognitive Communications and Networking. Under Review
- **Xiangyu Ren** et al. *Mutual-information GPR based multi-feature fusion SoH estimation model for Lithium ion battery*, 2018, submitted to Journal of Power Source
- Jun. Z, **Xiangyu Ren** et al. *Improved GPR SoH estimation method based on transfer learning*, 2018, submitted to Journal of Power Source

CONFERENCE PUBLICATIONS *2018-Present*
- **Xiangyu Ren**, Hamed Mosavat-Jahromi, Lin Cai, David Kidston, *Spatio-temporal Spectrum Load Prediction using Convolutional Neural Network and Bayesian Estimation*, GLOBECOM 2020-2020 IEEE Global Communications Conference. IEEE, 2020.
- Su. L, **Xiangyu Ren**, Lu. Y, (2018) *Fully CapsNet for semantic segmentation*, In: Lai JH. et al. (eds) Pattern Recognition and Computer Vision. PRCV 2018. Lecture Notes in Computer Science, vol 11257. Springer, Cham
- Xuan Gou, Kai Chen, **Xiangyu Ren**, Yifan Wang, *An Engineering Voltage Divider Network for Wideband and High Voltage Measurement*, IEEE Power & Energy Society General Meeting (PESGM). IEEE, 2019.

Extracurricular Activity

Services and Volunteering *UESTC*

Sep. 2015 - June. 2019

- **Student Assistant:** Helped with administrative works, Guide tutor for 2018 freshmen.
- **Volunteer works:** Tutoring primary school students in the countryside, Volunteer in campus activities
- **Exchange Program:** UCLA summer exchange program.

Services and Volunteering *UVIC*

Sep. 2019 - PRESENT

- **Teaching Assistant:** Served as marker TA and lab TA for several courses, Awarded with the Outstanding TA of the term
- **Seminar coordinator:** Organize and co-host online seminars for the CNLab
- **Lab website monitor:** Maintain CNLab' website
- **Paper Reviewers:** IEEE INFOCOM 2021, IEEE VTC 2020, Journal of Communications and Networks
- **Memberships:** IEEE student Member

Honors & Awards

2020	**University of Victoria Fellowship**, Graduate study award, $ 12,000, Jan.2021-Jan.2022	*UVIC*
2019	**Research Assistant Fellowship**, provided by Prof. Lin Cai, $ 16,500, Sep.2019-Dec.2020	*UVIC*
2019	**Outstanding Graduate Student**, Department of Automation Engineering,	*UESTC*
2018	**First prize**, Ren Min Award, CNY: 2000	*UESTC*
2018	**Honorable Mention**, Mathematical Contest in Modeling	*U.S.A*
2017	**First prize of Sichuan**, Mathematical Contest in Modeling	*China*
2017	**Second Prize**, NECCS National English Competition for College Students	*China*
2017	**Second prize, CNY: 1500**, Ren Min Award	*UESTC*
2016	**First prize**, Ren Min Award, CNY: 2000	*UESTC*
2016	**First prize**, Xiong Ying Award, CNY: 5000	*UESTC*