Junchi Bin

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EDUCATION

University of British Columbia (Okanagan), Kelowna, BC
M.A.Sc, Electrical Engineering, Sept. 2016 - Expected Sept. 2018 GPA: 88.9%
Northern Arizona University, Flagstaff, AZ, USA
B.Sc., Electrical Engineering, Aug. 2013 - Aug. 2016 GPA: 3.37

SELECTED PROJECTS

Cloud Enabled Mobile Sensing Agent for Smart Agriculture:
The device is designated for sensing environmental data, detect and forecast potential insects' disaster using acoustic recognition. The project won **the Second Position Award** in the IEEE "Sensor and Measurement" Student Contest (IEEE IS&M-SC) for live demonstration session at IEEE International Instrumentation and Measurement Technology Conference (I2MTC).

SKILLS

Programming: R, Python, Matlab, C, C#, SQL, Assembly.
Machine Learning: Xgboost, Keras, Tensorflow, Scikit-learn, Tensor Toolbox.
Electrical Engineering: Simulink, VHDL, Signal Processing, Raspberry Pi, Arduino.
Visualization: ggplot, PowerBI, Bokeh, Leaflet, ShinyR.

EXPERIENCE

Data Scientist (Contract) Data Nerds
Mar. 2018 - Jul. 2018 Kelowna, BC
I used tensor decomposition to manipulate the sparse spatial-temporal data, and forecast the average market values of properties for next year based on forecasting models such as Holt-Winter, ARIMA, AR, etc..

Research Assistant University of British Columbia
Sept. 2016 - Present Kelowna, BC
I mainly conducted research on urban computing and machine learning supervised by Dr. Zheng Liu and Dr. Eric Li. And I also supervised colleagues' projects such as anomaly detection for wind turbine, ocean transportation analysis and non-destructive testing.

Data Scientist Internship (Mitacs) Data Nerds
Sept. 2017 - Mar. 2018 Kelowna, BC
The house price not only depends on quantitative attributes but also topography, the beauty of a house, demographic, safety, etc.. Using the neural network (multi-modal CNN) to fuse multi-source data for property assessment. *Application Ref. : IT10011.*

Teaching Assistant University of British Columbia
Sept. 2017 - Dec. 2017 Kelowna, BC
Course: APSC254 - Instrumentation and Data Analysis. I have hosted tutorial session to help students with their assignments, experiments and examination.

Data Scientist Internship (Mitacs) Data Nerds
Dec. 2016 - Apr. 2017 Kelowna, BC
Peer-dependence is an important criterion to estimate house prices. There is not any contemporary system to consider such impact in the field of real estate appraisal. I have developed a valuation system to convert the measurement of peer-dependence into sequential learning. Using long short-term memory (LSTM), the method outperforms than contemporary appraisal models. *Application Ref. : IT08399.*

Teaching Assistant Northern Arizona University
Sept. 2015 - May 2016 Flagstaff, AZ, USA
Courses: EE348 - Signal Processing and EE188 - Introduction to Electrical Engineering. I mainly helped professor grade assignment, lab reports, and exams. Moreover, made answers for each assignment and exams.

PRESENTATION

The 45th Annual Meeting of the Statistical Society of Canada, Poster	Jun. 2017
Child Protection Hackathon 2017 in Vancouver hosted by Two Hat Security	Jul. 2017
IEEE International Conference on Computational Intelligence and Applications	Sept. 2017

AWARDS

IEEE IS&M-SC - Second Position	May 2018
Student Travel Award from Statistical Society of Canada	Mar. 2017

PUBLICATION

H. Liu, Z. Liu, S. Liu, Y. Liu, **J. Bin**, F. Shi, H. Dong. "A Nonlinear Regression Application Via Machine Learning Techniques for Geomagnetic Data Reconstruction Processing". *IEEE Transactions on Geoscience and Remote Sensing (IF: 4.94).* ***In Press.***

C. Zhang, **J. Bin** and Z. Liu. "Wind Turbine Assessment through Inductive Transfer Learning". *IEEE 2018 International Instrumentation and Measurement Technology Conference (I2MTC).* ***In Press.***

Q. Jin, **J. Bin**, W. Ren and Z. Liu. "Structural Performance Analysis and Prediction for In-service Bridge with SHM Data Mining". *Canadian Society of Civil Engineering (CSCE) 2018 Annual Conference.* ***In Press.***

WORK-IN PROGRESS

J. Bin, B. Gardiner, E. Li and Z. Liu. "Peer-dependence Valuation Model for Real Estate Appraisal". *Neural Processing Letters (IF:1.62).* ***Under Review.***

J. Bin, B. Gardiner, Z. Liu and E. Li. "Simple Attention-based Multi-modal Fusion for Real Estate Appraisal". *Neural Computing & Applications (IF:2.50).* ***Under Review.***

J.X. Liew, **J. Bin** and Z. Liu. "Software as a Service: the Future of NDI Data Analysis in the Cloud". *Insight (IF:0.754).* ***Under Review.***

J. Bin, B. Gardiner, Z. Liu and E. Li. "Multi-source Data Fusion for Property Assessment". *Information Fusion (IF:5.66).* ***Submitted.***

Q. Jin, **J. Bin**, W. Ren, Z. Li, "In-service Structural Performance Analysis and Prediction with SHM and Data Mining: Two Case Studies in Bridge Engineering", ***Preparation.***

REFERENCES

Dr. Zheng Liu
Senior Member of IEEE
Associate Professor in School of Engineering
University of British Columbia, Okanagan Campus
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