LUAN TRAN

CONTACT INFORMATION

Email: luantran@usc.edu
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TECHNICAL SKILLS

Programming Language: Python, Java, C++, C#, R, PHP, Matlab, JavaScript
Technology: Keras, Tensorflow, MySQL, SQL Server, Oracle DB, MongoDB, PyTorch

RESEARCH EXPERIENCE

Outlier Detection In Data Streams Jan 2015 - Present

⋆ Surveyed and comprehensively evaluated the existing methods for distance-based outlier detection in data streams.
⋆ Proposed a new framework to detect outliers in non-stationary data streams.
⋆ Proposed new methods to detect single and multiple distance-based outliers in data streams.

Early Sepsis Prediction Mar 2019 - June 2019

⋆ Proposed a deep neural network to early predict sepsis from physiological data.

AF Detection in ECG Recordings Jan 2019 - June 2019

⋆ Proposed a deep neural network to detect atrial fibrillation from single ECG recordings.

Task Assignment in Spatial Crowdsourcing Jan 2016 - June 2017

⋆ Proposed a spatial crowd-sourcing framework to maximize number of tasks within a budget.

Named Entity Recognition Sep 2012 - June 2013

⋆ Proposed a framework to detect named entities in Vietnamese text.

EDUCATION

University of Southern California (USC), Los Angeles, CA May 2021
Ph.D. in Computer Science
Advisor: Prof. Cyrus Shahabi

SELECTED PUBLICATIONS

Luan Tran, Liyue Fan, and Cyrus Shahabi, *Clustering Mixed-Type Data With Correlation-Preserving Embedding*, The 26th International Conference on Database Systems for Advanced Applications (DASFAA 2021), April, 2021.

Luan Tran, Min Y. Mun, and Cyrus Shahabi, *Real-Time Distance-based Outlier Detection in Data Streams*, Proceedings of the 47th International Conference on Very Large Data Bases (VLDB 2021), October, 2020.

Luan Tran, Min Y. Mun, Matthew Lim, Jonah Yamato, Nathan Huh, and Cyrus Shahabi, *DeepTRANS: A Deep Learning System for Public Bus Travel Time Estimation using Traffic Forecasting*, Proceedings of the 46th International Conference on Very Large Data Bases (VLDB 2020), August 31 - September 4, 2020.

Luan Tran, Yanfang Li, Luciano Nocera, Cyrus Shahabi, and Li Xiong, *MultiFusionNet: Atrial Fibrillation Detection With Deep Neural Networks*, AMIA 2020 Information Summit, March 23-26, 2020.

Luan Tran, Manh Nguyen, and Cyrus Shahabi, *Representation Learning for Early*

Sepsis Prediction, Proceedings of the Computing in Cardiology 2019 (CINC 2019), September 8-11, 2019.

Luan Tran, Liyue Fan, and Cyrus Shahabi, *Outlier Detection In Non-stationary Data Streams*, The 31st International Conference on Scientific and Statistical Database Management (SSDBM 2019), July 23-25, 2019.

Luan Tran, Hien To, Liyue Fan, and Cyrus Shahabi, *A Real-Time Framework for Task Assignment in Hyperlocal Spatial Crowdsourcing*, ACM Transactions on Intelligent Systems and Technology (TIST), March 2017.

Luan Tran, Liyue Fan, and Cyrus Shahabi, *Distance-based Outlier Detection In Data Streams*, The 42nd International Conference on Very Large Data Bases (VLDB 2016), September 5-9, 2016.

Working Experience

Research Assistant , Infolab, Computer Science Department, USC Aug 2014 - Present

⋆ *Large-scale Traffic Forecasting for Bus Arrival Time Estimation*: Developed Bus Arrival Estimation System using predicted traffic flow. [demo]

⋆ *Automatic Hyper-local Newsletter System*: Developed a newsletter system to provide local readers with updated news every week.

⋆ *Data Cleansing Framework*: Implemented algorithms (C#) to detect outliers and recover true data in large-scale data streams (10000 sensors) using Microsoft StreamInsight, PI Server.

⋆ *ATOM-HP Patient Data Analytics*: Designed database (MySQL) and web services (PHP, Java) for analyzing data of patients collected by using Microsoft Band SDKs and APIs.

Software Engineering Intern, Google Inc., Mountain View, CA, May 2018 - Aug 2018

⋆ *Query Driven Materialization*: Applying deep neural network to predict view maintenance cost, linear regression for cardinality estimation (C++, Python) for Google Mesa, Napa databases.

Software Engineer, Viettel Research and Development Institute, Aug 2013 - July 2014

⋆ *Virtual Desktop Infrastructure*: Developed a Virtual Desktop Infrastructure solution and built an IaaS system using Apache CloudStack, XenServer, and open source Ulteo Open Virtual Desktop (OVD). The system served about 1000 users.

Honours and awards

⋆ **Vietnam Education Foundation (VEF) Fellowship**, Cohort 2014

⋆ Third Prize in Idea start-up Contest sponsored by Microsoft at HUST, May 2013

⋆ **Second Place in the National Mathematical Analysis Contest for university students in Academic Year 2008-2009, June 01 2009** [pdf]

⋆ Consolation Prize in the Algebra Olympiad held by Hanoi University of Science and Technology in Academic Year 2008-2009, June 01 2009 [pdf]