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RESEARCH INTERESTS

Developing methods and tools for visual analytics – an integrated approach combining visualization, human factors and data analysis to derive insight from massive, dynamic, and ambiguous data.

EDUCATION

2010- 2014: Ph.D. in Computer Science, University of Illinois at Chicago, IL

2008-2009: M.Sc. in Computer Science, University of Illinois at Chicago, IL

2006-2008: M.Sc. in Computer Engineering, Politecnico di Milano, Italy

2001-2006: B.Sc. (with honor) in Computer Science, Ho Chi Minh City University of Technology, Vietnam

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WORK EXPERIENCE:

August 2016 – Present

Assistant professor at Texas Tech University, Lubbock, TX

August 2014 – July 2016

Postdoctoral researcher in biological network visualization at UIC Electronic Visualization Lab

September 2015 – June 2016

Consultant in network visualization for Objectivity Inc, San Jose, CA.

July 2014 – January 2015

Consultant in data visualization for Skytree - The Machine Learning Company.

August 2011 – July 2014

Research assistant in the Computer Science Department at University of Illinois at Chicago, IL

May 2011 – August 2011

Research assistant in the Learning Science Department at University of Illinois at Chicago, IL

January 2009 – May 2011

Research assistant in the National Center for Data Mining at University of Illinois at Chicago, IL

June 2005 - August 2005

Engineering Internship at Paragon Solutions Vietnam, Ho Chi Minh City, Vietnam.

PUBLICATIONS:

[S3] Vinh Nguyen, Akbar Siami Namin, and **Tommy Dang**. *MalViz: An Interactive Visualization Tool for Tracing Malware*. ACM SIGSOFT International Symposium on Software Testing and Analysis, ISSTA 2018.

[W8] Vinh Nguyen and **Tommy Dang**. *ComModeler: Topic Modeling Using Community Detection*. The 9th international EuroVis workshop on Visual Analytics, EuroVA 2018.

[W7] Vinh Nguyen, Fang Jin, and **Tommy Dang**. *Predict Saturated Thickness using TensorBoard Visualization*. The Visualization in Environmental Sciences, EnvirVis 2018.

[W6] Vinh Nguyen and **Tommy Dang**. *Setting up virtual reality and augmented reality learning environment in Unity*. IEEE Workshop on Virtual, Augmented and Mixed Reality in Education , ISMAR 2017 .

[W5] Vinh Nguyen, Yasin Kabir, and **Tommy Dang**. *CancerLinker: Explorations of Cancer Study Network* Visualization in Data Science at IEEE VIS 2017, VDS 2017.

[W4] **Tommy Dang**, Paul Murray, Ronak Etemadpour, and Angus G. Forbes. *A User Study of Techniques for Visualizing Structure and Connectivity in Hierarchical Datasets*. Proceedings of the 3rd International Workshop on Visualization and Interaction for Ontologies and Linked Data, VOILA 2017.

[W3] **Tommy Dang**, Long Hoang Nguyen, Abdullah Karim, and Venki Uddameri.. *STOAViz: Visualizing Saturated Thickness of Ogallala Aquifer.* The Visualization in Environmental Sciences, EnvirVis 2017.

[S2] **Tommy Dang** and Angus Forbes. *CactusTree: A Tree Drawing Approach for Hierarchical Edge Bundling*. Proceedings of the 10th IEEE Pacific Visualization Symposium, PacificVis 2017.

[S1**] Tommy Dang**, Paul Murray, and Angus Forbes. *BioLinker: Bottom-up exploration of protein interaction network*. Proceedings of the 10th IEEE Pacific Visualization Symposium, PacificVis 2017.

[W2] **Tuan Dang**, Hong Cui, and Angus Forbes. *MultiLayerMatrix: Visualizing Large Taxonomic Datasets*. The seventh international EuroVis workshop on Visual Analytics, EuroVA 2016.

[J5] **Tuan Dang**, Nick Pendar, and Angus Forbes. *TimeArcs: Visualizing Fluctuations in Dynamic Networks*. Proceedings of EG/VGTC Conference on Visualization, EuroVis 2016. (Acceptance rate of 27%)

[W1] **Tuan Dang**, Nico Franz, Bertram Ludäscher and Angus Forbes. *ProvenanceMatrix: A Visualization Tool for Multi-Taxonomy Alignments*. International Workshop on Visualizations and User Interfaces for Ontologies and Linked Data, VOILA 2015. (Acceptance rate of 28%)

[C10] **Tuan Dang,** Paul Murray, Jillian Aurisano, and Angus Forbes. *ReactionFlow: An Interactive Visualization Tool for Causality Analysis in Biological Pathways*. Proceedings of the 5th Symposium on Biological Data Visualization, BioVis 2015.

[C9] **Tuan Dang**, Paul Murray, and Angus Forbes. *PathwayMatrix: Visualizing Binary Relationships between Proteins in Biological Pathways*. Proceedings of the 5th Symposium on Biological Data Visualization, BioVis 2015.

[J4] **Tuan Dang** and Leland Wilkinson. *Transforming Scagnostics to Reveal Hidden Features*. IEEE Transactions on Visualization and Computer Graphics 20(12), VAST 2014. (Acceptance rate of 23%)

[C8] **Tuan Dang** and Leland Wilkinson. *PixSearcher: Searching Similar Images in Large Image Collections through Pixel Descriptors*. Proceedings of the 10th International Symposium on Visual Computing, ISVC 2014.

[C7] **Tuan Dang** and Leland Wilkinson. *ScagExplorer: Exploring Scatterplots by Their Scagnostics*. Proceedings of the 7th IEEE Pacific Visualization Symposium, PacificVis 2014. (Acceptance rate of 29%)

[C6] **Tuan Dang** and Leland Wilkinson. *TimeExplorer: Similarity Search Time Series by Their Signatures*. Proceedings of the 9th International Symposium on Visual Computing, ISVC 2013.

[J3] **Tuan Dang,** Anushka Anand, and Leland Wilkinson: *TimeSeer: Scagnostics for High-Dimensional Time Series*. IEEE Transactions on Visualization and Computer Graphics 19(13), TVCG 2013.

[C5] **Tuan Dang** and Leland Wilkinson. *Timeseer: detecting interesting distributions in multiple time series data*. Proceedings of the 5th International Symposium on Visual Information Communication and Interaction, VINCI 2012.

[C4] **Tuan Dang**, Anushka Anand, and Leland Wilkinson. *FmFinder: Search and Filter Your Favorite Songs*. Proceedings of the 8th International Symposium on Visual Computing, ISVC 2012.

[C3] Anushka Anand, Leland Wilkinson, and **Tuan Dang**. *Visual Pattern Discovery using Random Projections*. Proceedings of IEEE Conference on Visual Analytics Science and Technology, VAST 2012. (Acceptance rate of 28%)

[J2] Leland Wilkinson, Anushka Anand, and **Tuan Dang**. *Substantial improvements in the set-covering projection classifier CHIRP*. ACM TKDD 2012.

[C2] Leland Wilkinson, Anushka Anand, and **Tuan Dang**. *CHIRP: A New Classifier based on Composite Hypercubes on Iterated Random Projections*. ACM KDD 2011. (Acceptance rate of 17.5%)

[J1] **Tuan Dang,** Leland Wilkinson, and Anushka Anand. *Stacking Graphic Elements to Avoid Over-Plotting*. IEEE Transactions on Visualization and Computer Graphics 16(6), InfoVis 2010. (Acceptance rate of 26%)

[C1] Anushka Anand, Leland Wilkinson, and **Tuan Dang**. *An L∞ Norm Visual Classier*. Proceedings of IEEE International Conference on Data Mining, ICDM 2009. (Acceptance rate of 17.8%)

GRANTS:

[G6] AVX Aircraft – U.S. Army: Interactive Data Visualization for Rotorcraft Automated Component Tracking (2020-2021). Role PI

[G5] NSF Phase-II IUCRC: Center for Cloud and Autonomic Computing (2020-2024). Role co-PI

[G4] NSF IIP: Intelligent visual framework for analyzing chemical measurement data (2020-2021). Role PI

[G3] Dell Inc. support through the NSF IUCRC program: Visualizing, monitoring, and predicting health status of HPC centers (2019-2021). Role PI

[G2] AVX Aircraft – U.S. Army: Multi-Source Data Fusion (2019-2020). Role co-PI

[G1] SGIR Proposal*: Teaching Foreign Language Pronunciation through Educational Avatars*. The Seed Grants for Interdisciplinary Research at Texas Tech University. Role co-PI

AWARDS:

[A6] Honorable Mention: An Interactive Visual Analytics System for Misclassification Correction and Analysis. Mini-Challenge 2, VAST 2020.

[A5] Spirit of NSF I-Corps Award: The recognition for the team most exemplifying the spirit of I-Corps, the hard work, discipline, and intellectual honesty.

[A4] Visualization Showcase Award at PEARC 2019: HiperViz: Interactive Visualization of CPU Temperatures in HPC Centers.

[A3] Best paper at EnvirVis 2019: Visualizing water/soil chemical measurements via portable X-ray fluorescence (PXRF) spectrometry.

[A2] Award: *Strong Support for Exploratory Analysis*. VAST Challenge 2018: Mini-Challenge 2, VAST 2018.

[A1] Honorable Mention: *Representation of Small-Scale Temporal Patterns*. VAST Challenge 2018: Mini-Challenge 3, VAST 2018.

INVITED TALKS:

2017: *Visualizing Biological Pathways through Multiple Layers of Abstraction*. Bio-IT World Conference & Expo. Cambridge Healthtech Institute in Boston, MA
2016: *Data visualization and visual analytics*. TTU Computer Science departmental seminars.
2015: *Feature-based Visual Analysis*. Chicago Chapter ACM. Chicago, IL.
2014: *Feature-based Visual Analysis*. Skytree tech talk, 2014. San Jose, CA
2013: *Interactive Visual Analysis of Images*. Doctoral Colloquium, IEEE VisWeek. Atlanta, GA.

ACTIVITIES:

2018-Present: Program Committee of the 12th ACM Conference on Recommender Systems and Big Data Engineering and Analytics in Cyber-Physical Systems (BigEACPS'18)

2016-2018: Graduate Program Committee, course Equivalent Evaluator, and Admission.

2016: Website chair of the 6th Symposium on Biological Data Visualization (BioVis 2016).
2015: Website chair of the 5th Symposium on Biological Data Visualization (BioVis 2015).

2015-2020: Reviewer for IEEE Symposium on Information Visualization, IEEE Conference on Visual Analytics Science and Technology, IEEE Scientific Visualization, EG/VGTC Conference on Visualization, IEEE Pacific Visualization.
