Hoa T. Vu

CONTACT INFORMATION

- Computer Science Department, San Diego State University
  San Diego, CA, USA
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EMPLOYMENT AND EDUCATION

- San Diego State University (2019-present)
  Assistant Professor
- Boston College (2018-2019)
  Postdoctoral Research Fellow
  Mentor: Prof. Hsin-Hao Su
- University of Massachusetts Amherst
  M.S. and Ph.D., Computer Science (2011-2018)
  Advisor: Prof. Andrew McGregor
- Ohio State University
  B.S., Computer Science and Mathematics (2007-2011)

RESEARCH INTEREST

- Theoretical computer science with focus on the design and analysis of algorithms. Some topics include:
  - Graph algorithms
  - Approximation algorithms
  - Online algorithms
  - Algorithms for data summarization

TEACHING EXPERIENCE

- San Diego State University
  - Combinatorial algorithms CS 660 (Fall 2019)
  - Algorithms and their analysis CS 560 (Fall 2019)
- Boston College
  - Randomness and Computation CSCI 2244 (Spring 2019)
- University of Massachusetts Amherst
  - Teaching Assistant for Advanced Algorithms Comp Sci 611 (Fall 2017, Fall 2018, Spring 2018)
- Ohio State University
  - Undergraduate Teaching Assistant for Component-Based Software Development, Introduction to Data Structures and Algorithms, and Introduction to Database Systems.

HONORS AND AWARDS

- Workshop on Data Summarization 2018 Travel Award, The University of Warwick
- PODS/SIGMOD 2016 Travel Award
- Computer Science Undergraduate Scholarship for Academic Achievement, Ohio State University (2008-2009)

WORK EXPERIENCE

- Adobe Research Internship (2016)
  - Topic: Heavy hitters algorithms for high dimensional data streams
  - Mentors: Branislav Kveton and Muthu Muthukrishnan

JOURNAL PUBLICATIONS

Author names are in alphabetical order per tradition in theoretical computer science

[J1] Better Streaming Algorithms for the Maximum Coverage Problem
(Andrew McGregor and Hoa T. Vu)
Theory of Computing Systems

REFEREED CONFERENCE PUBLICATIONS

Author names are in alphabetical order per tradition in theoretical computer science

[C1] Distributed Data Summarization in Well-Connected Networks
(Hsin-Hao Su and Hoa T. Vu)
In Proceedings of The 33rd International Symposium on Distributed Computing (DISC) 2019

[C2] Towards the Locality of Vizing's Theorem
(Hsin-Hao Su and Hoa T. Vu)
In Proceedings of the 51st Annual ACM Symposium on the Theory of Computing (STOC) 2019

[C3] Finding Subcube Heavy Hitters in Analytics Data Streams
(Branislav Kveton, Muthu Muthukrishnan, Hoa T. Vu, and Yikun Xian)
In Proceedings of The Web Conference (WWW) 2018

[C4] Better Streaming Algorithms for the Maximum Coverage Problem
(Andrew McGregor and Hoa T. Vu)
In Proceedings of the 20th International Conference on Database Theory (ICDT) 2017
Invited to the special issue for ICDT

[C5] Better Algorithms for Counting Triangles in Data Streams
(Andrew McGregor, Sofya Vorotnikova, and Hoa T. Vu)
In Proceedings of the 35th ACM Symposium on Principles of Database Systems (PODS) 2016

[C6] Densest Subgraph in Dynamic Graph Streams
(Andrew McGregor, David Tench, Sofya Vorotnikova, and Hoa T. Vu)
In Proceedings of the 40th Intl. Symposium on Mathematical Foundations of Computer Science (MFCS) 2015

[C7] Evaluating Bayesian Networks via Data Streams
(Andrew McGregor and Hoa T. Vu)
In Proceedings of the 21st Annual International Computing and Combinatorics Conference (COCOON) 2015

[C8] Run Generation Revisited: What Goes Up May or May Not Come Down
(Michael A. Bender, Samuel McCauley, Andrew McGregor, Shikha Singh, and Hoa T. Vu)
In Proceedings of the 26th International Symposium on Algorithms and Computation (ISAAC) 2015

[C9] Manifold Warping: Manifold Alignment over Time
(Hoa T. Vu, Clifton Carey, and Sridhar Mahadevan)
In Proceedings of 26th AAAI Conference on Artificial Intelligence (AAAI) 2012

MANUSCRIPTS, THESIS & TECHNICAL REPORTS

[M1] Streaming Algorithms for Maximum Satisfiability
(Hoa T. Vu)
Manuscript

[M2] Distributed Dense Subgraph Detection and Low Outdegree Orientation
(Hsin-Hao Su and Hoa T. Vu)
Manuscript

[M3] Streaming Algorithms for Maximum Unique Coverage and Capacitated Maximum Cut
(Andrew McGregor and Hoa T. Vu)
Manuscript

[M4] Data Stream Algorithms for Large Graphs and High Dimensional Data
(Hoa T. Vu)
Doctoral Dissertation

[M5] Sparse Manifold Alignment
(C. Wang, B. Liu, S. Mahadevan, and Hoa T. Vu)
Technical Report UM-CS-2012-030

CONFERENCE AND INVITED TALKS

[T1] Towards the Locality of Vizing's Theorem
MIT Theory of Distributed Systems Seminar

[T2] Finding Subcube Heavy Hitters in Analytics Data Streams
WWW 2018

[T3] Better Streaming Algorithms for the Maximum Coverage Problem
ICDT 2017
Workshop on Data Summarization 2018
Dartmouth College Computer Science Theory Seminar

[T4] Better Algorithms for Counting Triangles in Data Streams
PODS 2016

[T5] Evaluating Bayesian Networks via Data Streams
COCOON 2015

[T6] Manifold Warping: Manifold Alignment over Time
AAAI 2012

PROFESSIONAL ACTIVITIES

- Journal reviews
  - Journal of Combinatorial Optimization (2019)
  - IEEE Transactions on Knowledge and Data Engineering (2018)
- Conference reviews
  - APPROX, ESA, PODC, SODA (2019)
  - SWAT, ESA, SODA (2018)

    - PODS (2016)
    - ESA (2015)
    - SODA (2014)
- Workshop presentations
    - DIMACS workshop on Big Data and Sublinear Algorithms 2015
    - MIT's Sub-linear day 2015