Postdoctoral Research Associate
Department of Computer Science
Dartmouth College
Address: 09 Maynard Street, Hanover, New Hampshire, USA, 03755

Phone: (+01) 646-329-4862
Email: haipeng.chen@dartmouth.edu
Webpage: https://haipeng-chen.github.io/

Research Interest

Artificial intelligent, machine learning, data mining, computational game theory, with intersections on various domains such as cyber security and transportation science

Education

Nanyang Technological University 01/2014 – 05/2018
Singapore
Ph.D. in Computer Science
Advisors: Yeng Chai Soh & Bo An
Thesis: Large Scale Strategic Decision Making in Multi-Agent Systems

University of Science and Technology of China 07/2009 – 07/2013
Hefei, China
B.Sc. in Physics

Research Appointments

Postdoctoral Research Associate 07/2018 –
Department of Computer Science, Dartmouth College
Advisor: V.S. Subrahmanian

Research Intern 11/2017 – 05/2018
Didi Xinrui Internship, Didi Chuxing
Project: InBEDE: Integrating Contextual Bandit with TD Learning for Pricing and Dispatch of Online Ride-Hailing Platforms (ICDM'19)

Research Intern 08/2013 – 11/2013
Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences

Awards

- **Demonstration Innovation Award, runner up**, IJCAI'19 2019
  In this paper "VEST: A System for Vulnerability Exploit Scoring and Timing", we developed a demo system which predicts the severity as well as the timing of being exploited for a disclosed cyber vulnerability. This demo paper is built upon the algorithms developed by our KDD'19 and ICDM'19 papers, and provides a highly interactive user interface and visualization tool to illustrate the network characteristics of our designed algorithms.

- Didi Xinrui Internship, Didichuxing 2017

- Winner of **Microsoft Malmo Collaborative AI Challenge** 2017

  Aimed at pushing the state of the art of collaborative AI, Microsoft Research launched the 2017 Malmo Collaborative AI Challenge, asking teams to provide solutions in a collaborative AI domain based on the Minecraft game platform. More than 80 teams from 26 countries entered the challenge and our designed agent HogRider won the first place.

  Media coverage:

  Presenting the winners of the Project Malmo Collaborative AI Challenge

  微软 Malmo 项目协同 AI 挑战赛：中国团队榜上有名，获胜者福利多多 (Chinese)

  SCSE Team HogRider wins first place for the Microsoft Azure for Research grant prize!

- Recommended for Teaching, University Teaching Award, NTU 2015

Teaching Experiences

Teaching Assistant of "Math Refresher" Spring'17
(Instructor: Patricia Y. J. Wong)

Teaching Assistant of "EE2006, Engineering Mathematics I" Fall'16
(Instructor: Patricia Y. J. Wong)

Professional Service

Program committee member:
AAAI 2019/2020
AAMAS 2019/2020
IJCAI 2019

Journal reviewer:
European Journal of Operational Research (2019)
IEEE Intelligent Systems (2018, 2019)
Journal of Computer and System Sciences (2018)
ACM Transactions on Computational Logic (2018)
Energy and Buildings (2017)

Student volunteer: WI-IAT (2015)

Pending Patent

Haipeng Chen, Zhiwei (Tony) Qin, Yan Jiao, Xiaocheng Tang, Bo An, Hongtu Zhu, and Jieping Ye. InBEDE: Integrating Contextual Bandit with TD Learning for Pricing and Dispatch of Online Ride-Hailing Platforms.

Publications

Under Review

[r4] Chongyang Bai, **Haipeng Chen**, Srijan Kumar, Jure Leskovic, and V.S. Subrahmanian. PPAMI: Predictive Persuasion Analysis of Multimodal Information.

[r3] Xu He, **Haipeng Chen**, Bo An. Adaptive Light Control by Inferring Human Light Preference from Imperfect Feedback.

[r2] **Haipeng Chen**, Mauro Conti, Luca Pajola, and V.S. Subrahmanian. StyleVAE: Preserving Styles in Text Generation.

[r1] **Haipeng Chen**, Qian Han, Sushil Jajodia, Roy Lindelauf, V.S. Subrahmanian and Yanhai Xiong. Disclose or Exploit? A Game Theoretic Approach Towards Strategic Decision Making in Cyber Warfare. Under revision.

Journal Articles

[j4] **Haipeng Chen**, Mohammad T. Hajiaghayi, Sarit Kraus, Anshul Sawant, Edoardo Serra, V.S. Subrahmanian and Yanhai Xiong. PIE: A Data-Driven Payoff Inference Engine with Counter-Terrorism Applications. IEEE Transactions on Computational Social Systems ***(TCSS)***, accepted.

[j3] Yuanyuan Wu, **Haipeng Chen**, and Feng Zhu. DCL-AIM: Decentralized Coordination Learning of autonomous intersection management for connected and automated vehicles, Transportation Research, Part C: Emerging Technologies ***(TR-C)***, 2019.

[j2] **Haipeng Chen**, Bo An, Dusit Niyato, Yengchai Soh, Chunyan Miao. Workload factoring and resource sharing via joint vertical and horizontal cloud federation networks, IEEE Journal on Selected Areas in Communications ***(JSAC)***, 35(3):557-570, 2017.

[j1] Bo An, **Haipeng Chen**, Noseong Park, V.S. Subrahmanian. Data-driven frequency-based airline profit maximization**,** ACM Transactions on Intelligent Systems and Technology ***(TIST)***, 8(4):61, 2017.

Conference Proceedings

[c9] **Haipeng Chen**, Yan Jiao, Zhiwei (Tony) Qin, Xiaocheng Tang, Hao Li, Bo An, Hongtu Zhu, Jieping Ye. InBEDE: Integrating Contextual Bandit with Temporal Difference Learning for Pricing and Dispatch of On-Line Car-Hailing Platform. Proceedings of the 19th IEEE International Conference on Data Mining ***(ICDM'19)***, regular paper, accepted.

[c8] **Haipeng Chen**, Jing Liu, Rui Liu, Noseong Park, V.S. Subrahmanian. VASE: Vulnerability Scoring and Analysis Engine. Proceedings of the 19th IEEE International Conference on Data Mining ***(ICDM'19)***, short paper, accepted.

[c7] **Haipeng Chen**, Jing Liu, Rui Liu, Noseong Park, V.S. Subrahmanian. VEST: A System for Vulnerability Exploit Scoring and Timing. Proceedings of the 28th International Joint Conference on Artificial Intelligence ***(IJCAI'19)***, demo paper. Demonstration Innovation Award runner up.

[c6] **Haipeng Chen,** Sushil Jajodia, Jing Liu, Noseong Park, Vadim Sokolov, and V. S. Subrahmanian. Fake Tables: Using GAN to Generate Functional Dependency Preserving Tables with Bounded Real Data. Proceedings of the 28th International Joint Conference on Artificial Intelligence ***(IJCAI'19)***.

[c5] Wei Qiu, **Haipeng Chen**, and Bo An. Dynamic Electronic Toll Collection via Multi-Agent Deep Reinforcement Learning with Edge-Based Graph Convolutional Network Representation. Proceedings of the 28th International Joint Conference on Artificial Intelligence ***(IJCAI'19)***.

[c4] **Haipeng Chen**, Rui Liu, Noseong Park, and V.S. Subrahmanian. Using Twitter to Predict When Vulnerabilities will be Exploited. Proceedings of the 25th ACM SIGKDD Conference on Knowledge Discovery and Data Mining ***(KDD'19)***.

[c3] Yanhai Xiong*, **Haipeng Chen***, Mengchen Zhao, Bo An. HogRider: Champion agent of Microsoft Malmo collaborative AI challenge. Proceedings of the 32nd AAAI Conference on Artificial Intelligence ***(AAAI'18)***. Oral presentation. Winner of Microsoft Malmo Collaborative AI Challenge. *Equal contribution.

[c2] **Haipeng Chen**, Bo An, Guni Sharon, Josiah Hanna, Peter Stone, Chunyan Miao, Yeng Chai Soh. DyETC: Dynamic electronic toll collection for traffic congestion alleviation. Proceedings of the 32nd AAAI Conference on Artificial Intelligence ***(AAAI'18)***. Oral presentation.

[c1] Bo An, **Haipeng Chen**, Noseong Park, V.S. Subrahmanian. MAP: Frequency-Based Maximization of Airline Profits based on an Ensemble Forecasting Approach, Proceedings of the 22nd ACM SIGKDD Conference on Knowledge Discovery and Data Mining ***(KDD'16)***, pp.421-430.