Haopeng Zhang

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Research Interests

- **Natural Language Processing**

  Graph4NLP, Summarization, Text mining

Education

University of California, Davis (continued) — Davis
Ph.D. in Computer Science — 2021–present
Advisor: Dr. Jiawei Zhang
Thesis: Leveraging structures for natural language processing

Florida State University — Tallahassee
Ph.D. in Computer Science — 2019–2021
Advisor: Dr. Jiawei Zhang

Georgia Institute of Technology — Atlanta
M.S. in Computational Science — 2016–2018
M.S. in Electrical and Computer Engineering

University of Illinois, Urbana and Champaign — Urbana
B.E. in Electrical Engineering — 2014–2016

Experience

Tencent AI Lab — Seattle, WA
Research Intern (Mentors: Dr. Sangwoo Cho, Dr. Kaiqiang Song) — Summer 2022
Worked on graph-based unsupervised multi-document summarization, proposed a holistic framework that balances summary salience and diversity, and completed one research paper.

Salesforce Research — Remote
Research Intern (Mentors: Dr. Semih Yavuz, Dr. Yingbo Zhou) — Summer 2021
Worked on addressing entityl-evel abstractive summarization hallucination by controlling entity coverage, domain transfer for abstractive summarization with intermediate data and completed one research paper.

Kidswant Company — Nanjing
Data Mining Research Intern (Mentors: Dr. Hang Liu) — Summer 2018
Worked on extracting lifecycle rules for different classes of products and improved the recommendation system; Developed tool with Django and Pyecharts for dynamic data visualization.

Publications

[1] **Zhang, Haopeng**, X. Liu, and J. Zhang, "Diffusum: Generation enhanced extractive summarization with diffusion", under review, 2022.

[2] **Zhang, Haopeng**, S. Cho, K. Song, X. Wang, J. Zhang, and Y. Dong, "Unsupervised multi-document summarization with holistic inference", under review, 2022.

[3] **Zhang, Haopeng**, X. Liu, and J. Zhang, "Scientific document summarization via contrastive hierarchical graph neural network", under review, 2022.

[4] **Zhang, Haopeng**, X. Liu, and J. Zhang, "Hegel: Hypergraph transformer for long document summarization", *Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing (**EMNLP**)*, 2022.

[5] **Zhang, Haopeng**, S. Yavuz, W. Kryściński, K. Hashimoto, and Y. Zhou, "Improving the faithfulness of abstractive summarization via entity coverage control", *Finding of the 2022 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (**NAACL**)*, pp. 528–535, 2022.

[6] **Zhang, Haopeng** and J. Zhang, "Centrality meets centroid: A graph-based approach for unsupervised document summarization", *arXiv preprint arXiv:2103.15327*, 2021.

[7] **Zhang, Haopeng** and J. Zhang, "Text graph transformer for document classification", *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (**EMNLP**)*, pp. 8322–8327, 2020.

[8] J. Zhang, **Zhang, Haopeng**, L. Sun, and C. Xia, "Graph-bert: Only attention is needed for learning graph representations", *arXiv preprint arXiv:2001.05140*, 2020.

Scholarships and Awards

- UC Davis Graduate Group in Computer Science (GGCS) Research Fellowship 2023
- FSU Travel Award 2020
- Adelaide D. Wilson Graduate Fellowship Endowment Fund 2019
- Russell E. Berthold Scholarship 2015

Teaching

- **Teaching Assistant** at Florida State University Fall 2019, Fall 2020
  Theory and Structure of Databases (COP4710)
- **Teaching Assistant** at Florida State University Spring 2020
  Complexity and Analysis of Data Structures and Algorithms (COP4531)

Skills

- **Programming:** Python, JAVA, Latex
- **Deep Learning Platform:** Pytorch, DGL, Huggingface