

# Wenbin He

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## Education

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| 2012 – Present | Department of Computer Science and Engineering, The Ohio State University, OH |
|                | Ph.D. <span style="float: right;"><i>grad. 12/2019</i></span>                 |
|                | GPA: 3.6  |
| 2008 – 2012    | School of Software, Beijing Institute of Technology, Beijing, China           |
|                | B.Eng. degree   |
|                | GPA: 3.4  |

## Work Experience

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### 05/2017 – Present

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| 05/2013 – 12/2016 | Graduate Research Associate | The Ohio State University, OH |
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- Worked on big data analysis and visualization to understand insights hidden in the data. Mainly focused on uncertain data analysis and visualization using statistical and deep learning models.

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| 01/2017 – 05/2017 | Graduate Teaching Associate | The Ohio State University, OH |
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- Teaching assistant for *Real-Time Rendering* and *Introduction to Data Visualization* classes.

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| 05/2019 – 07/2019 | Summer Intern | Mitsubishi Electric Research Laboratories, MA |
|-------------------|---------------|---|
- Worked on visual analytics on deep reinforcement learning models.

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| 05/2016 – 08/2016 | Research Aide | Argonne National Laboratory, IL |
|-------------------|---------------|---------------------------------|
- Worked on parallel reduction for large-scale data analysis and visualization on supercomputers.

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| 05/2015 – 07/2015 | Research Aide | Argonne National Laboratory, IL |
|-------------------|---------------|---------------------------------|
- Worked on analysis and visualization of uncertain unsteady flows using statistical models.

## Publications

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- **Wenbin He**, Junpeng Wang, Hanqi Guo, Ko-Chih Wang, Han-Wei Shen, Mukund Raj, Youssef S. G. Nashed, and Tom Peterka, "InSituNet: Deep Image Synthesis for Parameter Space Exploration of Ensemble Simulations," *IEEE Transactions on Visualization and Computer Graphics (SciVis 2019)*. (Best Paper Award)
  - **Wenbin He**, Hanqi Guo, Han-Wei Shen, and Tom Peterka, "eFESTA: Ensemble Feature Exploration with Surface Density Estimates," *IEEE Transactions on Visualization and Computer Graphics*, 2019.

- Hanqi Guo, **Wenbin He**, Sangmin Seo, Han-Wei Shen, Emil Mihai Constantinescu, Chunhui Liu, and Tom Peterka, “Extreme-Scale Stochastic Particle Tracing for Uncertain Unsteady Flow Visualization and Analysis,” *IEEE Transactions on Visualization and Computer Graphics*, vol. 25, no. 9, pp. 2710-2724, 2019.
- **Wenbin He**, Hanqi Guo, Tom Peterka, Sheng Di, Franck Cappello, and Han-Wei Shen, “Parallel Partial Reduction for Large-Scale Data Analysis and Visualization”, *In Proceedings of 2018 IEEE Symposium on Large Data Analysis and Visualization*, pp. 45-55, 2018. (**Best Paper Honorable Mention**)
- **Wenbin He**, Xiaotong Liu, Han-Wei Shen, Scott M. Collis, and Jonathan J. Helmus, “Range Likelihood Tree: A Compact and Effective Representation for Visual Exploration of Uncertain Data Sets,” *In Proceedings of 2017 IEEE Pacific Visualization Symposium*, pp. 151–160, 2017.
- Hanqi Guo, **Wenbin He**, Tom Peterka, Han-Wei Shen, Scott M. Collis, and Jonathan J. Helmus, “Finite-Time Lyapunov Exponents and Lagrangian Coherent Structures in Uncertain Unsteady Flows,” *IEEE Transactions on Visualization and Computer Graphics (PacificVis 2016)*, vol. 22, no. 6, pp. 1672–1682, 2016.
- **Wenbin He**, Chun-Ming Chen, Xiaotong Liu, and Han-Wei Shen, “A Bayesian Approach for Probabilistic Streamline Computation in Uncertain Flows,” *In Proceedings of 2016 IEEE Pacific Visualization Symposium, Visualization Notes*, pp. 214–218, 2016.
- Ayan Biswas, David Thompson, **Wenbin He**, Qi Deng, Chun-Ming Chen, Han-Wei Shen, Raghu Machiraju, and Anand Rangarajan, “An Uncertainty-Driven Approach to Vortex Analysis Using Oracle Consensus and Spatial Proximity,” *In Proceedings of 2015 IEEE Pacific Visualization Symposium*, pp. 223–230, 2015.

## Skills

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Languages: C/C++, Python, JavaScript, HTML, CSS

Graphics and Data Visualization: OpenGL, WebGL, GLSL, D3.js, Three.js

High Performance Computing: CUDA, MPI

Machine Learning: pytorch, tensorflow, scikit-learn