

# Visual Analytics for Machine Learning Interpretability

## ABSTRACT

While artificial intelligence has led to major breakthroughs in many domains, understanding machine learning models still remains a fundamental challenge. How can we help humans interpret complex, large-scale AI systems, so that practitioners can build them more easily and use them more confidently? In this talk, I will introduce my human-centric approach to this challenging problem. I will present some of the novel visual analytics tools we designed and developed, that are scalable, interactive, and easy to use. Specifically, I will discuss: how visual analytics tools can help ML practitioners explore their industry-scale deep learning models (e.g., ActiVis deployed by Facebook); and how these tools can support their end-to-end ML workflows (e.g., fairness auditing, model debugging). Lastly, I will discuss how interactive visualization can broaden people's access to AI, such as by helping learners understand complex concepts of deep learning models (e.g., GAN Lab, an open-sourced tool developed with Google).

## SPEAKER BIO

[Minsuk Kahng](#) is an assistant professor in the School of Electrical Engineering and Computer Science at Oregon State University. His research focuses on building visual analytics tools for humans to better explore, interpret, and interact with complex machine learning systems and large datasets. His work synergistically combines methods from multiple areas, including data visualization, machine learning, human-computer interaction, and databases. Kahng's research led to deployed technologies by Facebook (e.g., ActiVis, MLCube) and an open-sourced deep learning education tool developed with Google (e.g., GAN Lab, used by more than 170,000 people in over 160 countries). His research has been supported by NSF, DARPA, Google, and Facebook. He received his Ph.D. in computer science from Georgia Tech and won the Georgia Tech's 2021 College of Computing Dissertation Award.



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Talk: 11:00-11:30 AM Pacific  
Q/A: 11:30-11:45

Zoom: [beav.es/tech-talk](https://beav.es/tech-talk)

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