

Mike Wu

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Industry Experience

Pointable 2023-2024
Chief scientist building AI agents, RAG pipelines, speech translation systems, and LLM enterprise applications.

Web3Analytic 2023-2024
Co-founded a data analytics platform for blockchain transactions. Worked with 20+ crypto clients spanning DeFi, NFTs, and gaming protocols. Part of a16z Crypto Startup School '23 and StartX '23.

Sanas 2023
Machine learning consultant building generative models for real-time voice conversion.

Uplimit 2021-Present
Co-instructor (with Andrew Maas) for a course on Data Centric Deep learning, hosted by Uplimit platform.

Facebook Applied Machine Learning (AML) 2016-2017
Visiting engineer in Facebook research building tools and infrastructure for training computer vision models.

Lattice Data 2016
Software engineer building weakly supervised classifiers based on the DeepDive project. Lattice Data was acquired by Apple.

Ionis Pharmaceuticals 2013
Data science intern building classifiers for drug design.

Education

Stanford University 2017 - Present
Ph.D., M.S. in Computer Science
Advisor: Noah Goodman
Select Courses: CS142 (Web Applications, Mendel Rosenblum), CS228 (Probabilistic Graphical Models, Stefano Ermon), CS428 (Computation and Cognition, Noah Goodman), CS242 (Programming Languages, Will Crichton), CS251 (Cryptocurrencies and Blockchain Technologies, Dan Boneh), CS255 (Introduction to Cryptography, Dan Boneh), Math115 (Functions of a Real Variable), Math120 (Group Theory, Persi Diaconis), Math171 (Fundamental Concepts of Analysis), Math175 (Elementary Functional Analysis, Yiran Wang), Math205a (Measure Theory, Brian White)

Yale University, Hopper College 2012 - 2016
B.S. with Distinction in Computer Science
Yale college council, science committee
Select Courses: CPSC202 (Discrete Math, James Aspnes), CPSC223 (Data Structures and Algorithms, Stanley Eisenstat), CPSC323 (Systems Programming and Computer Arch., Stanley Eisenstat), CPSC437 (Databases, Avi Silberschatz), CPSC467 (Cryptography and Computer Security, Michael Fischer)

	University of Oxford , New College 1st mark in three courses in Computer Science Oxford computing society Select Courses: Advanced Data Structures and Algorithms (Edith Elkind), Machine Learning (Nando de Freitas)	2015
Awards and Honors	Botha-Chan Innovation Fellow Pear VC Fellow Educational Data Mining Best Paper Award Educational Data Mining Best Student Paper Runner-up AAAI Outstanding Student Paper Award IDEO CoLab Fellow AngelHack, Augmented Reality Category 1st place AMIA CRI Nominated for Informatics Award API World Hackathon, Telesign API 1st place Trueface.ai Hackathon, 1st place HackMIT Top 8 Hacks, Dropbox API 1st place Qualcomm QLiving Scholarship Intel ISEF Semifinalist Siemens Competition Semifinalist Intel ISEF Finalist, 3rd place in Computer Science XSEDE Best Student Poster	2021 2020 2020 2020 2019 2019 2018 2017 2017 2017 2015 2014 2012 2012 2011 2011
Press	<p><i>Can A.I. Grade Your Next Test?</i> The New York Times (07/20/2021). [https://www.nytimes.com/2021/07/20/technology/ai-grading-tests.html]</p> <p><i>First-of-its-kind Stanford machine learning tool streamlines student feedback process for computer science professors.</i> Stanford News (07/27/2021). [https://news.stanford.edu/2021/07/27/ai-grades-students-20210727/]</p> <p><i>On privacy in Web3. In conversation with Will, Kaili and Mike from Tutela</i> Golem Foundation (02/27/2022). [https://golem.foundation/2022/02/07/interview-Tutela.html]</p>	
Fellowships	Stanford Interdisciplinary Graduate Fellowship (Karr Family Fellow) NSF Graduate Research Fellowship	2020-Current 2017-2020
Patents	Frank Wood, Mike Wu , Yura Perov, Hongseok Yang. Computing engine, software, system and method. US Patent App. 15/465,131, 2017.	
Preprints	<p>Mike Wu, Will McTighe, Kaili Wang, Istvan A. Seres, Nick Bax, Manuel Puebla, Mariano Mendez, Federico Carrone, Tomás De Matthey, Herman O. Demaestri, Mariano Nicolini, Pedro Fontana. Tutela: An Open-Source Tool for Assessing User-Privacy on Ethereum and Tornado Cash. In <i>ArXiv</i>, 2022.</p> <p>Mike Wu, Richard L. Davis, Benjamin W. Domingue, Chris Piech, Noah Goodman. Modeling Item Response Theory with Stochastic Variational Inference. In <i>ArXiv</i>, 2021.</p> <p>Mike Wu, Chris Piech, Noah Goodman, Chelsea Finn. ProtoTransformer: A Meta-Learning Approach to Providing Student Feedback. In <i>ArXiv</i>, 2021.</p>	

Mike Wu, Noah Goodman, Stefano Ermon. Improving Compositionality of Neural Networks by Decoding Representations to Inputs. In *Proc. 35th Annual Conference on Neural Information Processing Systems* (NeurIPS), 2021.

Ali Malik, **Mike Wu**, Vrinda Vasavada, Jinpeng Song, John Mitchell, Noah Goodman, Chris Piech. Generative Grading: Neural Approximate Parsing for Automated Student Feedback. In *Educational Data Mining* (EDM), 2021.

Mike Wu, Sonali Parbhoo, Michael C. Hughes, Ryan Kindle, Leo Celi, Maurizio Zazzi, Volker Roth, Finale Doshi-Velez. Regional Tree Regularization for Interpretability in Black Box Models. In *Journal of Artificial Intelligence Research* (JAIR), 2021.

Alex Tamkin, **Mike Wu**, and Noah Goodman. Viewmaker Networks: Learning Views for Unsupervised Representation Learning. In *Proc. 9th International Conference on Learning Representations* (ICLR), 2021.

Mike Wu, Chengxu Zhuang, Milan Mosse, Daniel Yamins, and Noah Goodman. Conditional Negative Sampling for Contrastive Learning of Visual Representations. In *Proc. 9th International Conference on Learning Representations* (ICLR), 2021.

Mike Wu and Noah Goodman. A Simple Framework for Uncertainty in Contrastive Learning. In *ArXiv*, 2021.

Mike Wu, Chengxu Zhuang, Milan Mosse, Daniel Yamins, Noah Goodman. On Mutual Information in Contrastive Learning for Visual Representations. In *ArXiv*, 2020.

Mike Wu, Richard L. Davis, Benjamin W. Domingue, Chris Piech, Noah Goodman. Variational Item Response Theory: Fast, Accurate, and Expressive. In *Educational Data Mining* (EDM), 2020. [**Oral Presentation (15 min).**] [**Best Paper Award.**]

Mike Wu, Sonali Parbhoo, Michael C. Hughes, Volker Roth, Finale Doshi-Velez. Optimizing for Interpretability in Deep Neural Networks with Simulable Decision Trees. In *Proc. 34rd AAAI Conference on Artificial Intelligence* (AAAI), 2020. [**Oral Presentation (20 min).**]

Mike Wu, Kristy Choi, Noah Goodman, Stefano Ermon. Meta-Amortized Variational Inference and Learning. In *Proc. 34rd AAAI Conference on Artificial Intelligence* (AAAI), 2020.

Mike Wu, Noah Goodman. Multimodal Generative Models for Compositional Representation Learning. In *ArXiv*, 2019.

Judith Fan, Robert X.D. Hawkins, **Mike Wu**, Noah Goodman. Pragmatic inference and Visual Abstraction Enable Contextual Flexibility during Visual Communication. In *Computational Brain and Behavior* (COBB), 2019.

Mike Wu, Noah Goodman, Stefano Ermon. Differentiable Antithetic Sampling for Variance Reduction in Stochastic Variational Inference. In *Proc. 22nd International Conference on Artificial Intelligence and Statistics* (AISTATS), 2019.

Mike Wu, Milan Mosse, Noah Goodman, Chris Piech. Zero Shot Learning for Code Education: Rubric Sampling with Deep Learning Inference. In *Proc. 33rd*

AAAI Conference on Artificial Intelligence (AAAI), 2019. [**Oral Presentation (12 min).**] [**Outstanding Student Paper Award.**]

Mike Wu, Noah Goodman. Multimodal Generative Models for Scalable Weakly-Supervised Learning. In *Proc. 32nd Annual Conference on Neural Information Processing Systems (NeurIPS)*, 2018.

Mike Wu, Michael C. Hughes, Sonali Parbhoo, Maurizio Zazzi, Volker Roth, Finale Doshi-Velez. Beyond Sparsity: Tree Regularization of Deep Models for Interpretability. In *Proc. 32nd AAAI Conference on Artificial Intelligence (AAAI)*, 2018. [**Spotlight Presentation (2 min).**]

Marzyeh Ghassemi, **Mike Wu**, Michael C. Hughes, Finale Doshi-Velez. Predicting Intervention Onset in the ICU with Switching Statespace Models. In *Proc. AMIA Summit on Clinical Research Informatics (CRI)*, 2017. [**Nominated for Informatics Award.**]

Mike Wu, Marzyeh Ghassemi, Mengling Feng, Leo Anthony Celi, Peter Szolovitz, Finale Doshi-Velez. Understanding Vassopressor Intervention and Weaning: Risk Prediction in a Public Heterogeneous Clinical Time Series Database. In *Journal of the American Medical Informations Association, Volume 24, Issue 3, No. 1 (JAMIA)*, 2016.

Mike Wu, Madhu Krishnan. Edge-based Crowd Detection from Single Image Datasets. In *International Journal of Computer Science Issues, Volume 12, Issue 1, No. 1 (IJCSI)*, 2013.

Madhu Krishnan, **Mike Wu**, Young Kang, Sarah H. Lee. Autonomous Mapping and Navigation through Utilization of Edge-based Optical Flow and Time-to-Collision. In *ARPN Journal of Engineering and Applied Sciences, Volume 7, No. 12*, 2012.

Workshops

Oliver Zhang, **Mike Wu**, Jasmine Bayrooti, Noah Goodman. Temperature as Uncertainty in Contrastive Learning. In *NeurIPS 2021 Workshop on Self-Supervised Learning Theory and Practice*.

Ananya Karthik, **Mike Wu**, Noah Goodman, Alex Tamkin. Tradeoffs Between Contrastive and Supervised Learning: An Empirical Study. In *NeurIPS 2021 Workshop on Self-Supervised Learning Theory and Practice*.

Mike Wu, Jonathan Nafziger, Anthony Scodary, Andrew Maas. HarperValleyBank: A Domain-Specific Spoken Dialog Corpus. In *Workshop on Machine Learning in Speech and Language Processing (MLSLP)*, 2021.

Mike Wu, Kristy Choi, Noah Goodman, Stefano Ermon. Meta-Amortized Variational Inference and Learning. *NeurIPS 2019 Workshop on Bayesian Deep Learning*. [**Spotlight Presentation (1 min).**]

Mike Wu, Sonali Parbhoo, Finale Doshi-Velez. Beyond Sparsity: Tree Regularization of Deep Models for Interpretability. *NeurIPS 2017 Workshop on Transparent and interpretable Machine Learning in Safety Critical Environments*. [**Contributed Talk (10 min).**]

Conference Abstracts

Jasmine Bayrooti, **Mike Wu**, Alex Tamkin, Noah Goodman. Gravitational Con-

trastive Learning: Inducing Structure During Instance Discrimination. *Stanford CS Summer Research Program* (CURIS), 2020. [**Outstanding Poster Award.**]

Judith Fan, Robert X.D. Hawkins, **Mike Wu**, Noah Goodman. Modeling contextual flexibility in visual communication. *Vision Sciences Society Annual Meeting* (VSS), 2018.

William Smith, **Mike Wu**, Yura Perov, Frank Wood, Hongseok Yang. Spreadsheet probabilistic programming. *Inaugural International Conference on Probabilistic Programming*. (PROBPROG), 2018.

Jessi Cisewski-Kehe, **Mike Wu**, Brittany Fasy, Wojciech Hellwing, Mark Lovell, Alessandro Rinaldo, Larry Wasserman. Investigating the Cosmic Web with Topological Data Analysis. *American Astronomical Society Meeting*. (AAS) 2018.

Teaching Experience

Teaching Assistant, Dept. of Computer Science, Stanford University Winter 2021
CS109: Probability for Computer Scientists (Chris Piech)

Teaching Assistant, Dept. of Engineering, Stanford University Fall 2021
ME208: Patent Law and Strategy for Innovators and Entrepreneurs (Jeffrey Schox)

Teaching Assistant, Dept. of Computer Science, Stanford University Spring 2020
CS224S: Spoken Language Processing (Andrew Maas)

Award for Outstanding Work by Course Assistants (Top 5%)

Teaching Assistant, Dept. of Computer Science, Stanford University Fall 2019
CS398: Computational Education (Chris Piech)

Teaching Assistant, Dept. of Computer Science, Yale University Spring 2016
CPSC437: Operating System Concepts (Avi Silberschatz)

Teaching Assistant, School of Management, Yale University Fall 2015
MGT656: Management of Software Development (Kyle Jensen)

Invited Talks

Multidisciplinary University Research Initiative (MURI) Visual Common-Sense Annual Meeting, 2020.

Berkeley Center for Human-Compatible AI Technical Seminar, 2020.

Stanford Computer Forum Annual Meeting, 2019.

Human-Centered Artificial Intelligence Institute Symposium, 2019.

Yale Technology Conference, Yale University, 2016.

Probabilistic Programming Workshop, University of Southampton, 2016.

Projects

Tutela 2021-2022
<https://www.tutela.xyz>, <https://github.com/pareto-xyz/tutela-app>
Co-founded an Ethereum and Tornado Cash anonymity detection tool, built as a response to a Tornado Cash community grant.

YHack 2013-2016

<https://www.yhack.org>

Co-founded an international collegiate hackathon. Raised 100-200k annual budget.
Still active in 2024.