

EDUCATION	<b>University of Michigan</b> , Ann Arbor, MI <i>Ph.D. Statistics</i> <b>Sep 2021 - Jun 2026 (Expected)</b> ▷ Cum. GPA: 4.000/4.000 ▷ Selected Courses: Applied Probability and Stochastic Modeling, Computation and Optimization Methods, Monte Carlo Methods, Systems for Generative AI, LLMs and Transformers, Causal Inference, Uncertainty Quantification in Modeling, Regression Analysis, Stat. Mechanics <b>Princeton University</b> , Princeton, NJ <i>Bachelor of Arts</i> <b>Sep 2014 - Jun 2018</b> ▷ Major: Mathematics MAT/COS/ORF GPA: 3.680/4.000, Cum. GPA: 3.642/4.000 ▷ Certificates: Applications of Computing, Statistics and Machine Learning ▷ Selected Courses: Topology, Real Analysis, Complex Analysis, Theoretical ML (Graduate), Fairness in ML (Graduate), Machine Learning/Pattern Recognition (Graduate), Neural Networks, Analysis of Big Data, Computer Vision, Computer Graphics, Stochastic Systems
WORK EXPERIENCE	<b>Meta</b> , Menlo Park, CA ( <i>SWE, IC5</i> ) <b>Jul 2018 - Sep 2021</b> <i>Augmented Reality Projects (2019-2021)</i> ▷ Designed and implemented real-time (72 FPS) novel dynamic object reconstruction algorithm for 300k+ vertex meshes in Unity HLSL/C#. ▷ Implemented real-time (72 FPS) point cloud, dense mesh, and TSDFs (KinectFusion) scene reconstruction & rendering on HMDs & lenticular displays with C++/OpenGL/GLES/OpenCL ▷ Implemented deep learning model in PyTorch and optimized via SNPE & QAT to run at 30 FPS on Qualcomm SoC for Portal platforms. Added translation support for quantized nodes in JIT-compiled PyTorch to Caffe2. <i>Manifold (2018-19)</i> <a href="https://yashpatel15400.github.io/files/manifold.pdf">https://yashpatel15400.github.io/files/manifold.pdf</a> ▷ Added distributed rendering through Docker, RabbitMQ, and Kubernetes. Improved depth estimation efficiency by 30% with novel “Gaussian funnel.” <b>Amazon</b> , Seattle, WA ( <i>SWE Intern</i> ) <b>Jun 2017 - Aug 2017</b> ▷ Developed debugging service in Java (Spring MVC) for Kiva Picking Optimization team. Deployed globally to Amazon Robotics-enabled fulfillment centers with AWS (EC2, S3, SNS/SQS).
CONFERENCE PUBLICATIONS	“Conformal Contextual Robust Optimization,” <b>Patel Y</b> , Rayan S, Tewari A. <i>International Conference on Artificial Intelligence and Statistics, 2024</i> <b>Oral Presentation</b> “Amortized Variational Inference with Coverage Guarantees,” <b>Patel Y</b> , McNamara D, Loper J, Regier J, Tewari A. <i>International Conference on Machine Learning, 2024</i>
IN SUBMISSION	“Conformal Prediction for Robust Control,” <b>Patel Y</b> , Rayan S, Tewari A. <i>arXiv:2405.16250</i> “Conformalized Late Fusion Multi-View Learning,” EO Rivera*, <b>Patel Y</b> * (* denotes equal contribution), Tewari A. <i>arXiv:2405.16246</i> .
PATENTS	“Holographic Calling for Artificial Reality,” AP Pozo, J Virskus, G Venkatesh, K Li, SC Chen, A Kumar, R Ranjan, BK Cabral, SA Johnson, W Ye, MA Snower, <b>Y Patel</b> . <i>US Patent App. 17/360,693</i>
WORKSHOP PROCEEDINGS	“Non-Parameteric Conformal Distributionally Robust Optimization,” <b>Patel Y</b> , Cao G, Tewari A. <i>ICML 2024 Workshop on Structured Probabilistic Inference &amp; Generative Modeling</i> “Diffusion Models for Probabilistic Deconvolution of Galaxy Images,” Li Y, Xue Z, <b>Patel Y</b> , Regier J. <i>ICML Machine Learning for Astrophysics Workshop, 2023</i> “RL Boltzmann Generators for Conformer Generation in Data-Sparse Environments,” <b>Patel Y</b> , Tewari A. <i>NeurIPS Machine Learning in Structural Biology (MLSB) Workshop, 2022</i> . “Scalable Bayesian Inference for Finding Strong Gravitational Lenses,” <b>Patel Y</b> , Regier J. <i>NeurIPS Machine Learning and the Physical Sciences Workshop, 2022</i> .
AWARDS	2x NSF GRFP Honorable Mention (2020, 2022) Outstanding First-Year Ph.D. Student Award (2022) Outstanding Graduate Student Instructor Team Award (2022)