

Chris Rockwell

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EDUCATION	University of Michigan <i>Ph.D. in Computer Science and Engineering</i> • Advisors: David F. Fouhey, Justin Johnson <i>Master of Science, Computer Science and Engineering</i> • GPA: 4.00/4.00 • Advisors: David F. Fouhey, Jia Deng <i>Bachelor of Science, Economics, Magna Cum Laude</i> <i>Minors in Computer Science and Mathematics</i> • GPA: 3.95/4.00	Ann Arbor, MI Sep. 2020 - May 2024 (Expected) Sep. 2018 - May 2020 Sep. 2011 - May 2015
INTERESTS	Computer Vision, Machine Learning	
PUBLICATIONS	PixelSynth: Generating a 3D-Consistent Experience from a Single Image Chris Rockwell , David F. Fouhey and Justin Johnson ICCV 2021. Full-Body Awareness from Partial Observations Chris Rockwell and David F. Fouhey ECCV 2020.	
RESEARCH EXPERIENCE	Michigan Vision Lab <i>Graduate Research Assistant</i> Advisor: Justin Johnson Novel View Synthesis • Fused 3D and autoregressive methods to create an immersive scene from a single image • Implemented per-image autoregressive outpainting orderings to hallucinate new content • We produce superior image quality and cross-image consistency than all baselines Fouhey AI Lab <i>Graduate Research Assistant</i> Advisor: David F. Fouhey 3D Human Pose Estimation • Introduced self-training method to substantially improve pose estimation on internet video • Annotated four internet video datasets for eval; present out-of-image keypoint evaluation • A/B Testing selected ours over baselines 2.4x-8.9x more frequently over four datasets. Princeton Vision and Learning Lab <i>Graduate Research Assistant</i> Advisor: Jia Deng 2D Human Pose Estimation • Improved <i>Stacked Hourglass</i> score from 90.9% to 91.3% on MPII using better regularization • Used bottleneck-to-attention mechanism with reg. to improve 2HG accuracy 0.7% • Increased precision of network confidence, explored utilizing for curriculum training Meta-Learning • Brought fine-tune model to within 0.1 <i>avg. rank</i> of meta-learning baseline on <i>Meta-Dataset</i>	Ann Arbor, MI May 2020 - Present Ann Arbor, MI May 2019 - Present Princeton, NJ May 2018 - May 2019

Strategic Reasoning Group*Undergraduate Research Assistant* | Advisor: Michael P. Wellman May 2013 - Jul. 2013

Ann Arbor, MI

Agent-based simulation of High-Frequency Trading and Latency Arbitrage

- Implemented security information processors to help build market microstructure

**HONORS &
AWARDS****University of Michigan**

Ann Arbor, MI

Research Experience for Undergraduates Award

2013

James B. Angell Scholar

2013-2016

William J. Branstrom Freshman Prize

2012

University Honors

2011-2015

Phi Kappa Phi Honors Society

2015

**TEACHING
&
ACTIVITIES**

Reviewer: CVPR (2021), ICCV (2021)

AI4ALL Project Instructor: lead vision project for nine underrepresented high-schoolers

AI4ALL Curriculum Advisory Board Member: contributed to national curriculum

AI4ALL Application Reviewer: rated student applications for AI4ALL acceptance

Technical Mentor: mentored four undergrads with Prof. Fouhey, including one remote in the African Undergraduate Research Adventure (AURA); mentored two BNP interns

Academic Mentor: mentored five undergraduate CSE students; grad orientation panelist

Graduate Student Advisory Committee: represented CSE students to improve experience

Grader: EECS 598 Deep Learning

**SALIENT
COURSES****University of Michigan, MS:**

Ecological Approach to Perception: explored embodied amodal perception of novel objects

Advanced AI: replicated *Image Generation from Scene Graphs*, evaluated using VQAMachine Learning: replicated and improved accuracy of *Stacked Hourglass Networks*Self-Driving Cars: fine-tuned *Squeeze and Excitation ResNet* for road-side classificationAdvanced Data Mining: performed link prediction using *SDNE* on sparse, temporal graphs

Deep Learning for Computer Vision (no class project)

University of Michigan, BS:AI, Linear Algebra, Econometrics, Adv. Calculus, Numerical Methods, Algorithms & DS

**PROFESSIONAL
EXPERIENCE****TuringSense, INC.**

Santa Clara, CA

Consultant

Feb. 2021 - Apr. 2021

- Suggested and implemented improvements to TuringSense product (details private)

Citadel, LLC.

New York, NY

Trader, Global Fixed Income (Core Team)

Apr. 2017 - Oct. 2017

- Generated trade ideas and managed risk to assist Portfolio Manager and Fund Manager
- Designed and implemented tools to improve team's trading portfolios

BNP Paribas

New York, NY

Interest Rates and FX Structuring Analyst (Intern in summer 2014) Jul. 2015 - Mar. 2017

- Priced, modeled and executed exotic and bespoke products
- Created and analyzed systematic hedging strategies and trade ideas

Last Updated 11 Aug 2021