

Vishal Chandra

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EDUCATION

MS Electrical & Computer Engineering, University of Michigan 2024—2025
Concentration in Computer Vision

Relevant Coursework: AI for Science, Generative Models for Computer Graphics, Reinforcement Learning, Graduate Machine Learning, Optimization in Signal Processing & ML, Randomized Numerical Linear Algebra.

BSE Computer Engineering, University of Michigan 2021—2024
Magna Cum Laude, Minor in Mathematics

Relevant Coursework: Data Structures & Algorithms, Parallelized Algorithms & CUDA, Quantum Algorithms, Digital Signal Processing, DSP Design Lab, Computer Vision, Graduate Computer Vision.

EXPERIENCE

Lockheed Martin *New York, New York*
AI/ML Research Engineer, Lockheed AI Center August 2025—Present

- Vision-language model distillation and adversarial post-training for robust AI in field-deployed edge platforms.
- Exploring world models for long-horizon sensor aggregation and intelligence.

Visual Geometry Group, Oxford *Oxford, England*
Visiting Researcher June 2025—Present

- Combining rich visual priors and rapid motor adaptation for manipulation tasks in adversarial environments.

Michigan Robotics *Ann Arbor, MI*
Research Assistant, Laboratory for Progress Nov 2022—May 2025

- Mapped DeepRL architectures to existing FPGA IPs to enable to high-level synthesis for RL on the edge.
- Gaussian splats for articulated object reconstruction and novel view synthesis. Publications in RSS and IROS.

MIT Lincoln Laboratory *Lexington, MA*
Research Intern May—Aug 2024

- Unsupervised object re-identification via CLIP prompting, causal intervention, and auxiliary learning.
- Developed latent space clustering and community detection algorithms for query-free re-identification tasks.
- Independently contributed one poster to IEEE HPEC.

Cognex *Natick, MA*
Vision Research Intern May—Aug 2023

- Developed human-in-the-loop image annotation tool to leverage Segment Anything Model (SAM) for large-scale assisted image annotation. Deployed vision models in real time in a server-side setting.
- Formulated methods for 2D surface comparison for use in vision model loss function, based on rank correlation and ideas from differential geometry. Compiled work as whitepaper and presented to large R&D audiences.

Software Engineering Intern May—Aug 2022

- Developed wireframe-style image analysis platform and learned signal processing theory behind relevant tools.
- Implemented modulation transfer function (MTF) algorithm to quantify image quality in QA of assembled cameras. MTF uses the frequency content of sharp edges to derive the point spread function (PSF) of an imaging system, allowing QA from single-image acquisitions.

PUBLICATIONS AND CONFERENCE PROCEEDINGS

S. Lewis, **V. Chandra**, and O. C. Jenkins, "SplatArtNeo: Articulated Gaussian Splatting from Few Observations." *In Preparation for RA-L*.

S. Lewis, **V. Chandra**, T. Gao, and O. C. Jenkins, "SPLATART24: Articulated Gaussian Splatting with Estimated Object Structure." *IROS 2025*

S. Lewis, **V. Chandra**, T. Gao, and O. C. Jenkins, "SPLATART24: Articulated Gaussian Splatting with Estimated Object Structure." *Gaussian Representations for Robot Autonomy @ RSS 2025*

V. Chandra, "Explainable DiGCN for Decomposition of Opaque Node Ranking Functions." IEEE HPEC 2024

V. Chandra, A. Martinian, and P. Atlas, "Sculptable Kaleidocycles: Visualizing Variable Cell Geometry." Bridges 2021.

TEACHING

Introduction to Artificial Intelligence, Graduate Instructor Winter 2024 with Alex Rodríguez

- Taught weekly discussion section on topics including classical AI, genetic algorithms, and RL.
- Designed course programming assignments, supplemental materials, and held office hours.

Introduction to Computer Vision, Teaching Assistant Fall 2023 with Andrew Owens

- Led weekly section reviewing foundational topics including filtering, pyramids, pytorch, GANs, and NeRFs.
- Designed problem sets focused on algorithm implementations and held weekly office hours for student questions.

TECHNICAL SKILLS

Languages Python, C/C++ , Java, Matlab
Technologies Torch, CUDA, slurm, Docker
Hardware Verilog, Modelsim, IceStudio, hls4ml

AWARDS & HONORS

Eta Kappa Nu Honor Society (2025)
Mathematics Dept. Commencement Speaker (2024)
4x College of Engineering Dean's List (2021–2024)

STUDENT ORGANIZATIONS

Atlas Digital Consulting

Project Manager Jan 2023—Jan 2024

- Sourced and led consulting projects for midwest technology startups with a team of five analysts each semester.
- Set goals and timelines for development and design subteams to work in parallel and integrate periodically. Led product reviews with clients and relayed feedback to both subteams.

Michigan Investment Group

Quantitative Portfolio Management Lead May 2023—Jan 2024

- Led team of analysts in testing and implementing portfolio allocation methods, often working through new research and technical concepts. Explored reinforcement learning and RNN-based approaches to asset allocation.
- Work to pin down fundamental analyst forecasts into probabilistic model inputs to models such as Black-Litterman.

HOBBIES & INTERESTS

I enjoy learning to fly planes, collecting mechanical watches, cooking, and visiting the many museums of New York.