

# Marek Gardias

🌐 pmgardias.com

✉️ przemek.gardias@gmail.com

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I work on foundation modeling enabling delightful user experiences. My interests compound towards empowering people with realtime models that share a familiar world view.

My background is in multimodal representation learning (CV & NLP), transfer learning, and geometric modeling. To ship ML products I work cross functionally, with large scale data and compute.

## Work

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### Apple

*Machine Learning Engineer*

System and models for [Apple Intelligence](#) and [Photos Memory Creation](#)

**Cupertino, CA**

*Jan. 2022 - Present*

### Worcester Polytechnic Institute

*Teacher's Assistant, CS541 Deep Learning*

*Graduate Research Assistant*

**Worcester, MA**

*Aug. 2020 - May 2021*

*May 2020 - Aug. 2020*

### Proofpoint

*Software Engineer Intern*

**San Francisco, CA**

*Jun. 2019 - Aug. 2019*

### Cloudflare

*Software Engineer Intern, Sales Operations*

**San Francisco, CA**

*Jun. 2018 - Aug. 2018*

## Education

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### Worcester Polytechnic Institute

*M.Sc. Computer Science*

*B.Sc. Computer Science, Cum Laude*

**Worcester, MA**

*May 2020 - May 2021*

*Aug. 2016 - May 2020*

## Projects

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### Modeling social interactions to inform classroom climate

- Geometric modeling with student-instructor attention for inferring positive climate in a classroom
- System utilizing model to provide teachers feedback on intervals of classroom video

### Residual GANs for context-based image outpainting

- Generative modeling with residual connections and joint local and global discriminators for image outpainting
- Published: [arXiv:2005.06723](#) [[eess.IV](#)]

### Inferring corrosive behavior of platings with computer vision

- Software for data collection and inference, tested at Cape Canaveral Air Force Station with U.S. ARL scientists
- CNN and SVM ensemble for corrosion test sample rating per ASTM D1654

### Controlling swarms in AR with gesture and speech

- Magic Leap system for a user to deploy a swarm of robots to move real objects by manipulating their virtual representations using a combination of voice and gesture controls

## Skills

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**Software:** Python (PyTorch, Numpy, etc), Linux, Bash, Git, and Jupyter Notebook amongst others

**Compute:** Provisioned cloud instances (i.e. AWS, GCP) for replicatable and scaling distributed compute