

# Amy Lin

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## EDUCATION

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### Carnegie Mellon University

B.S. in Computer Science (GPA: 3.45)

Pittsburgh, PA

Aug 2020 - May 2024

**Relevant Coursework:** Great Ideas in Theoretical Computer Science, Algorithm Design & Analysis, Probability & Computing, Distributed Systems, Artificial Intelligence Representation & Problem Solving, Intro to Machine Learning, Deep Reinforcement Learning & Control, Computer Vision, Computer Graphics

## EXPERIENCE

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### Aurora Innovation: Software Engineering Intern

May 2023 - Aug 2023

- Scraped Postgres database and wrote various data processing scripts to target meaningful training data
- Collaborated with various teams to have data labeled and cleaned, wrote Python/C++ scripts to evaluate new data
- Trained and evaluated a perception model with new data, analyzed performance based on metrics and scenarios
- Added distributed metric computation to data sourcing and prioritization pipeline

### Physical Perception Lab: Computer Vision Research Assistant

Feb 2022 - Present

- Trained neural shape network to reconstruct 3D cars and explore categorical latent space
- Experimented with MLPs, transformers, and diffusion models to outperform existing baselines in sparse view pose estimation
- Wrote distributed training, evaluation, and visualization pipelines for many datasets and baseline models
- Created videos, web pages and HTML visualizations for supplementary materials and paper release

### Google: Software Engineering Intern

May 2022 - Aug 2022

- Designed and wrote gRPCs for fetching integration test data between various CI/CD sources
- Completed and tested Java backend implementation for several highly user-requested features

### Google: STEP Intern

May 2021 - Aug 2021

- Implemented sorting features for Google Kubernetes Engine, managing over 50,000+ entities per project
- Wrote design docs, iterated on reviewed code, and wrote backend unit tests for Java web application

## PROJECTS

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### Game Creation Society: Project Lead

- Led 15+ interdisciplinary students to create a deathmatch style first person shooter in Unity for WebGL (see [Project Page](#))
- Implemented multiplayer networking, AI actors, character movement and more

### Augmented Perception Lab: VR Physics Simulator

- Unity Oculus Quest 2 application to measure how a person's understanding of physics varies across environments

### MoonRanger: Perception Programmer

- Developed two Core Flight System applications in C/C++, implementing stereo rectification algorithm

### iOS Applications

- Camera utility that allows users to determine which items in a photo are recyclable, made with Swift, Google Cloud Vision API
- A conversation-oriented language translator made with Swift, Objective-C, Google Speech APIs

## SKILLS

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### Programming Languages

Python, C/C++, Java

### Competitive Programming

USACO Gold Division

### Web/iOS Development

HTML, JS, CSS, Swift, Obj-C

### Other

Linux, ROS, Arduino

### AR/VR/Game Development

Unity, Unreal Engine, Blender

## PUBLICATIONS

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Amy Lin\*, Jason Y. Zhang\*, Deva Ramanan, and Shubham Tulsiani. RelPose++: Recovering 6D poses from sparse-view observations. arXiv preprint [arXiv:2305.04926](https://arxiv.org/abs/2305.04926), 2023. (Submitted to 3DV 2024, [Project Page](#))