

Ganesh Pimpale

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EDUCATION

University of California, Berkeley

August 2021 - May 2024 (Anticipated)

- B.S. Major: Mechanical Engineering, Minor: Theater and Performative Studies
- Coursework: Linear Algebra, Discrete Math, Statistics, MatLab, SolidWorks, Solid Mechanics, Electronics

SKILLS

- **Programming Languages:** Python, Java, C++, C#, Javascript, MatLab, L^AT_EX
- **Operating Systems:** Windows 7/8/8.1/10, Windows Server 2016/2019, Linux (Ubuntu, Fedora, Arch)
- **Technologies:** OpenCV, PyBullet, SciPy, Keras, MySQL, MongoDB, Flutter, ROS
- **Programming Tools:** Git, PyCharm, IntelliJ, VsCode, Visual Studio 2019, Vim, Emacs
- **Design Tools:** SolidWorks(Program/API), Onshape(Program), FreeCAD(Program/API), OpenSCAD, Ultimaker Cura

EXPERIENCE

Interactive Perception and Robot Learning Lab, Stanford / NYU

Remote

Research Intern

August 2020 - Present

- **Robotic Automated Assembly:** creates a dataset of exploded 3D views to teach robots to assemble parts via reinforcement learning
 - Developed software for 3D-model analysis to automatically disassemble simple assemblies using Pybullet
 - Automated URDF generation through the SolidWorks API
 - Implemented current robotic grasping and dexterity algorithms

Innexgo LLC

San Jose, California

Hardware Engineering Lead, Co-Founder

August 2019 - Present

- Designed user hardware and internal electronics of RFID scanners
- Oversaw the manufacturing and installation process of early pilot programs; developed system for 3D-printing at scale

Stanford Compression Forum

Palo Alto, California

Research Intern and Student Mentor

May 2019 - September 2021

- **Facial Landmark Data Collection to Train Facial Emotion Detection Learning Models**
 - Designed an efficient method of data collection for emotion detection models
 - Created software to track facial landmark data using the BlazeFace CNN and a user interface to associate emotions to facial data
- **Vision-Based Robotic Object Manipulation;** Using a Human-Mimicking Hand Design with Pure Object Recognition Algorithms to Intelligently Grasp Complex Items
 - Researched robotic grasping algorithms using only vision data
 - Remodeled software to generate 3D models from vision data and implemented a primitive shape detection algorithm
- **Human-Based Image Compression;** Using a Deterministic Computer Algorithm to Reconstruct Pre-Segmented Images
 - Prototyped a segmentation based lossy image compression algorithm using Keras
 - Evaluated performance of of algorithm against human compressors and other popular compression algorithms
- Mentored multiple small groups of high schoolers for a summer quarter
- Conducted seminars teaching the basics of CAD, Python, data analytics, and electronics

PROJECTS

Infill Pattern and Density Optimization for 3D-Printing

Python, C++, FreeCAD, Ultimaker Cura

Software Engineering and Materials

October 2019 - May 2020

- Designed software that optimizes the strength to mass ratio of 3D-printed objects
- Received the Grand Prize Alternate and First Award in the 2020 Synopsys Championship Science Fair

“Marine Autonomous Litter Collector” (MALC)

Python, OpenCV, Keras, SolidWorks

Software Engineering and Mechanical Engineering

September 2018 - May 2019

- Created a full scale low-cost autonomous water drone capable of searching for and picking up surface trash
- Received the Regional Stockholm Junior Water Prize and the Grube Award for the most ingenious project