

# Nicholas Verzic

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## EDUCATION

**The University of Texas at Austin**, Austin, TX

Graduated: 05/25

Bachelor of Science (3.7 GPA): Mathematics, Mechanical Engineering; Minor: Economics

## SKILLS

### **Programming Languages/Software:**

**Advanced** Python, C++, JavaScript, Java, R, MATLAB, GNU Octave, SolidWorks, Word Suite, Adobe Suite

**Intermediate** C#, Bash Scripting, C, Swift, Fusion 360, Unity

**Packages/Libraries:** Robot Operating System, PyTorch, TensorFlow, PySpark, Numpy, Scikit-Learn, Keras, Pandas, Prometheus

**Hardware and Manufacturing:** Mechatronics, Raspberry Pi, Arduino, 3D Printing, Laser Cutting, Injection Molding, Soldering

## INTERNSHIPS/WORK EXPERIENCE

**Meta** (Menlo Park, CA)

Machine Learning/Software Engineer Intern

05/24-08/24

- Developed audio recognition system for determining types of audio transformations present in files
- Adapted vision transformer with PyTorch for use as audio classifier

**Hewlett Packard Enterprise** (San Jose, CA)

Software Engineer Intern

05/23-08/23

- Scripted custom machine and database monitoring tools to enable comparison of Aruba ClearPass Policy Manager versions
- Performed code repairs of different CPPM versions' daemon processes

**Learning Agents Research Group, The University of Texas at Austin** (Austin, TX)

*Undergraduate Researcher*

06/22-Present

- Led research project on novel technique for computer-vision detection and identification of elevator buttons/labels
- Invited to give Oral Presentation on research at 2024 IEEE International Conference on Intelligent Robots and Systems (IROS)
- Developed spatial- and image-data processing scripts for live, accurate gaze detection pipeline given low-resolution video feed

**Applied Research Laboratories, The University of Texas at Austin** (Austin, TX)

*Student Technician*

06/22-08/22

- Researched propagation of nonlinear acoustic waveforms through special materials
- Wrote MATLAB scripts to calculate waveform data propagation over time using differential equations

**Stanford Institute for Human-Centered Artificial Intelligence's Digital Economy Lab, Stanford University** (Stanford, CA)

*Research Intern*

02/21-05/23

- Researched personal productivity trends; contributed to op-ed published to the MIT Technology Review titled "The coming productivity boom," under S-DEL Director, Professor Erik Brynjolfsson
- Programmed R scripts analyzing Californian demographic data for Stanford California 100 project

**NASA Ames Research Center** (Mountain View, CA)

*NASA Intelligent Robotics Group Yearlong University Intern*

12/18-12/20

- Researched and developed custom multilateration algorithms for distributed sensor network using RF ranging in MATLAB
- Conducted on-site experiments in simulated lunar surface environment

## INDEPENDENT PROJECTS/ACTIVITIES

**IDBizz iOS Application**

06/21-07/21

- Developed free iOS application for consumers to find and support business owners' identities and causes

**ChildrenGiving.org Co-Founder, Lead Curriculum Designer**

07/09-07/23

- Delivered free programming and CS workshops to 1,000+ students through Microsoft (Stanford), and Tracy School District

## PUBLICATIONS

- IEEE Aerospace Conference, 2020 publication, "PHALANX: Expendable Projectile Sensor Networks for Planetary Exploration"
- Acknowledgment in thesis, "Cross-Domain Adaptation and Geometric Data Synthesis for Near-Eye to Remote Gaze Tracking"
- IEEE International Conference on Intelligent Robots and Systems (IROS), 2024 publication, "Recovering Missed Detections in an Elevator Button Segmentation Task"

## AWARDS & HONORS

- UT Austin University Honors recipient (all semesters)

## UNIVERSITY EXTRACURRICULARS

- Autonomous Robotics Research Project Peer Mentor, Research Program Peer Mentor
- *University Clubs:* Design/Manufacturing Team Leader -- Longhorn Toy Factory, Active Guidance Team -- Texas Guadalupe