

# NOAH LINCKE

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## EDUCATION

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<b>University of Michigan, Ann Arbor</b>	<b>GPA: 3.88</b>
B.S.E in Computer Science	2019-2022
College of Engineering	William J. Branstrom Award (top 5% of class)
Relevant coursework:	
Machine Learning (EECS 445), Computer Vision (EECS 442), Conversational AI (EECS 498)	

## TECHNICAL STRENGTHS

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<b>Primary Programming Languages</b>	C++, Python
<b>Secondary Languages/Tools</b>	Pytorch, Vim, Git, bash/zsh

## WORK EXPERIENCE

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**Kodiak Robotics** *May-August 2022*  
*Deep Learning for Computer Vision Intern*

**University of Michigan** *May-August 2021*  
*Researcher*

- Evaluated multi-agent simulations of a novel beta-Bernoulli model for prediction markets, a type of financial market in which the goal is to elicit the private beliefs of traders of real-world events, such as the outcome of an election or the percentage of votes on a bill
- Theory utilized Bayesian statistics and probability theory, and simulations were implemented in Python.

**TechSmart, Palo Alto** *June-August 2018-2019*  
*Computer Science Instructor* *www.techsmart.codes*

- Taught as solo lead instructor for two summers in daily classes of around 20 middle school aged children.
- Languages taught included Java, Python, Javascript, and visual mobile development language Stencil.
- Each week culminated in showcase where children demonstrated new skills to parents.

## PROJECTS

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**Pose** *<https://github.com/noahlincke/pose>*

- Developed lightweight Python script to perform head pose estimation on any input video (including live webcam video).
- Utilizes pre-trained HoG (Histogram of Oriented Gradients) with Linear SVM model for face detection. Random Forest model then predicts location of 68 face landmarks (eyes, mouth, nose, chin, etc).
- Face landmarks used to find 3D to 2D camera projection for pose estimate.

### SuperSize Me

- Implemented state-of-the-art super-resolution techniques in Pytorch on Google Colab servers to successfully upscale images with significantly less noise (PSNR) than bicubic interpolation
- Experimented with multiple neural networks models including a conventional convolutional neural network (CNN) and generative adversarial network (GAN), and trained both on the DIV2K dataset.

## EXTRACURRICULARS

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- Member of IEEE - HKN (Institute of Electrical & Electronics Engineers Honor Society).
- Member of Algorithmic Trading Team within MFAMS (Michigan Finance & Mathematics Society) working on sentiment analysis.