

## Education

- 2015-2020 **University of Texas at Austin,**  
*Computer Science, Master of Science and Bachelor of Science.*  
Thesis *Debiasing Convolutional Neural Networks via Meta Orthogonalization*  
Advisors Qiang Liu, Ruth C. Fong
- 2015-2019 **University of Texas at Austin,**  
*Mathematics, Bachelor of Science.*  
Focus on Mathematical Sciences.

## Experience

- Dec 2021 - **Senior Research Scientist, PROTOPIA AI.**  
Present
  - Leading R&D efforts for secure inference and training of deep learning models.
- Nov 2020 - **Software Engineer, Machine Learning, META AI APPLIED RESEARCH.**  
Dec 2021 Responsible AI: Fairness & Inclusion
  - Developed core functionality of Fairness measurement tools, including statistical computation and scalability
  - Implemented privacy-first measurements, enabling large scale fairness measurements of ML models with respect to protected attributes. Read more here:  
*How Meta is working to assess fairness in relation to race in the U.S. across its products and systems*
  - Supported applied research on Meta subsidiaries by developing necessary infrastructure
- July 2020 - **AI Research Intern, HRL LABORATORIES.**  
Oct 2020
  - Focused on understanding adversarial attacks on convolutional neural networks
  - Investigated novel defenses through pruning and Fourier analysis to target robust/nonrobust features.
  - Submitted patent for edge-device adversarial detection
- May 2019 - **Software Engineering Intern, INSTAGRAM.**  
Aug 2019 Instagram Sharing ML
  - Developed new Stories ranking models, balancing Direct and Stories metrics
  - Implemented neural network pruning and tested the *Lottery Ticket Hypothesis* on production ranking models
- May 2018 - **Software Engineering Intern, FACEBOOK, INC.**  
Aug 2018 Facebook Monetization Ranking
  - Developed new features for feed ads ranking model through big data pipelines
  - Implemented new pooling layers in neural network architectures using Caffe2

## Research

- Nov 2021 **How Meta is working to assess fairness in relation to race in the U.S. across its products and systems,**  
Meta, Responsible AI et al.,  
*Whitepaper.*
- Nov 2020 **Debiasing Convolutional Neural Networks via Meta Orthogonalization,**  
**Kurtis Evan David, Qiang Liu, Ruth C. Fong,**  
*NeuRIPS, 2020 Workshop on Algorithmic Fairness through the Lens of Causality and Interpretability.*
- June 2019 **GANchors: Realistic Image Perturbations for Anchors Using Generative Models,**  
**Kurtis Evan David, Harrison Keane, Jun Min Noh,**  
*arXiv preprint.*

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## Teaching

- Spring 2020 **EE460J Data Science Laboratory**, *Graduate Teaching Assistant*.  
Fall 2019 **EE461P Data Science Principles**, *Graduate Teaching Assistant*.  
Spring 2019 **EE461P Data Science Principles**, *Undergraduate Teaching Assistant*.  
Spring 2018 **CS429H Computer Organization and Architecture**, *Undergraduate Teaching Assistant*.  
Spring 2017 **Computational Intelligence in Design**, *Undergraduate Teaching Assistant*.

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## Awards

- 2017-2019 **Unrestricted Endowed Presidential Scholarship**, *UT Austin*.  
Nominated by the Mathematics Department for academic excellence.  
Fall 2016 **TAMUHack Quantlab Financial Prize**, *Texas A&M*.  
Created a Chrome extension dubbed SubSearcher that allows users to search through video audio.  
Fall 2015 **Albert A. Bennett Calculus Exam 2nd Place**, *UT Austin*.  
Open ended calculus exam consisting of 5 challenges. Graded by correctness and proof quality.  
2015-2019 **Houston Area Rodeo Scholarship**, *UT Austin*.  
2015 **Valedictorian**, *Klein Oak High School*.

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## References

**Qiang Liu**,  
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**Ruth C. Fong**,  
*Teaching Faculty Member*,  
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**Sujay Sanghavi**,  
*Associate Professor*,  
Electrical and Computer Engineering, UT Austin,  
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**Hadi Esmaeilzadeh**,  
*CTO, Protopia AI*  
*Associate Professor, UC San Diego*,  
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**Jonathan Tannen**,  
*Research Engineering Manager*,  
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**Michael A. Warren**,  
*Senior Research Staff Scientist*,  
HRL Laboratories,  
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