Ziyan Yang

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EDUCATION

Rice University, Houston, Texas, USA

- Ph.D. in Computer Science — Sep 2021 – Dec 2023 (expected)
  - Advisor: Prof. Vicente Ordóñez Román
  - Focus: Computer Vision, Natural Language Processing, Multimodal Machine Learning

University of Virginia, Charlottesville, Virginia, USA

- Master of Computer Science, PhD Transfer Out — Sep 2017 – Aug 2021
  - Advisor: Prof. Vicente Ordóñez Román
  - Cumulative GPA: 3.97 / 4.00

Bryn Mawr College, Bryn Mawr, Pennsylvania, USA

- B.A., Honors in Computer Science — Aug 2013 – May 2017
  - Minor in Mathematics
  - Cumulative GPA: 3.93 / 4.00

WORK EXPERIENCE

Netflix, Los Gatos, California, USA

- Machine Learning Researcher Intern — May 2023 – Aug 2023 (expected)
  - Mentor: Mahdi M. Kalayeh
  - Manager: Patric Glynn
  - Focus: Multimodal representation learning and large language models

Adobe, San Jose, California, USA (remote)

- Applied Scientist Intern — May 2022 – Feb 2023
  - Mentor: Kushal Kafle, Zhihong Ding, Zhe Lin, Scott Cohen
  - Manager: David Tompkins
  - Focus: Explored object relation prediction and grounding through text augmentation

eBay, San Jose, California, USA (remote)

- Applied Scientist Intern — Jun 2021 – Aug 2021
  - Mentor: Jiangbo Yuan
  - Manager: Tony Haro
  - Focus: Trained object detection models and explored weakly supervised object detection pipelines

PUBLICATIONS

[1] Improving Visual Grounding by Encouraging Consistent Gradient-based Explanations.
Ziyan Yang, Kushal Kafle, Franck Dernoncourt, Vicente Ordonez
Conf. on Computer Vision and Pattern Recognition. **CVPR** 2023.

[2] Backpropagation-Based Decoding for Multimodal Machine Translation.
Ziyan Yang, Leticia Pinto-Alva, Franck Dernoncourt, Vicente Ordonez.
Frontiers in Artificial Intelligence. January 2022.

[3] Using Visual Feature Space as a Pivot Across Languages.
Ziyan Yang, Leticia Pinto-Alva, Franck Dernoncourt, Vicente Ordonez.
Findings of the Association for Computational Linguistics: **EMNLP** 2020.

[4] Closing the Generalization Gap of Adaptive Gradient Methods in Training Deep Neural Networks.
Jinghui Chen, Dongruo Zhou, Yiqi Tang, Ziyan Yang, Yuan Cao, Quanquan Gu.
International Joint Conference on Artificial Intelligence: **IJCAI** 2020.

[5] On the Convergence of Adaptive Gradient Methods for Nonconvex Optimization.
Dongruo Zhou, Jinghui Chen, Yuan Cao, Yiqi Tang, Ziyan Yang, Quanquan Gu.
NeurIPS 2020 Workshop on Optimization for Machine Learning: **OPT** 2020

[6] Chair Segments: A Compact Benchmark for the Study of Object Segmentation.
Leticia Pinto-Alva, Ian K. Torres, Rosangel Garcia, Ziyan Yang, Vicente Ordonez.
arxiv:2012.01250. December 2020.

RESEARCH EXPERIENCE

Rice University, Houston, Texas, USA

- Advisor: Prof. Vicente Ordóñez Román — Sep 2021 – Jun 2022
- Proposed a margin-based loss for vision-language model pretraining that encourages gradient-based explanations to be consistent with region-level annotations.

University of Virginia, Charlottesville, Virginia, USA

- Advisor: Prof. Vicente Ordóñez Román — May 2019 – Aug 2021
- Extended the feedback-prop inference procedure to the multilingual image captioning and multimodal machine translation tasks.

University of Virginia, Charlottesville, Virginia, USA

- Advisor: Prof. Vicente Ordóñez Román — Sep 2018 – May 2019
- Defined complex and non-complex images under distinct visual recognition tasks and provided an empirical analysis of semantic and linguistic differences between English sentences describing these two image sets.

University of Virginia, Charlottesville, Virginia, USA

- Advisor: Prof. Quanquan Gu — Nov 2017 – Sep 2018
- Provided a sharp convergence analysis of the adaptive gradient methods. Analyzed the state-of-the-art adaptive gradient method Padam and proved its convergence rate for smooth non-convex objective functions in the stochastic optimization setting.

AWARDS & SCHOLARSHIPS

- Frances Velay Women's Science Research Fellowship — Jun 2016
- Summer Science Award 2015 by Bryn Mawr College — Jun 2015
- Project-Based Fellowships in Computer Science by Center for Science of Information — Feb 2015

PROGRAMMING SKILLS

Proficient in Python, C/C++, and Java. Familiar with SQL, MATLAB, and R.