**Davis Wertheimer**

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**SUMMARY**

I am a machine learning researcher with a proven track record of creative solutions to difficult challenges in deep learning. I have multiple top-tier conference publications and my work with my graduate advisor Bharath Hariharan has advanced and broadened the state-of-the-art in learning from limited data. I am seeking an industry research scientist position at the intersection of pure and applied research, tackling challenging problems in Machine Learning and Computer Vision.

**EDUCATION**

* **Cornell University:** Ph.D. in Computer Science*Expected December 2021*

Concentration Artificial Intelligence, with dual minors in Information Science and Scientific Computing. Coursework includes advanced graduate-level algorithms, systems, programming languages, natural language processing, deep learning, computer vision, design, and technology ethics, law and policy. My research work is detailed in Publications, below.

* **Stanford University:** BSci in Symbolic Systems*June 2016*

Concentration Artificial Intelligence, with a minor in mathematics. Graduated with distinction (3.9 GPA). Coursework included Stanford’s advanced Math 50 series, programming series (Java, C++, C, and Python), and studies in probability theory, linear algebra, formal logic, algorithms, linguistics, psychology, natural language processing, deep learning, and computer vision.

**PUBLICATIONS**

* **Few-Shot Learning in Long-Tailed Settings** *TPAMI special issue, under review*

**Davis Wertheimer**, Luming Tang, Dhruv Baijal\*, Pranjal Mittal\*, Anika Talwar\* and Bharath Hariharan   
(\* equal contribution)  
An update and expansion of my CVPR 2019 paper for journal publication.

* **Few-Shot Classification with Feature Map Reconstruction Networks** *CVPR 2021*

**Davis Wertheimer**\*, Luming Tang\* and Bharath Hariharan (\*equal contribution)  
Use spatial detail and closed-form linear regression in latent space to better leverage limited data at test-time.

* **Augmentation-Interpolative AutoEncoders for Unsupervised Few-Shot Image Generation**

**Davis Wertheimer**, Omid Poursaeed and Bharath Hariharan  
Mapping data augmentations to latent space allows image generators to produce images from novel concepts.

* **Revisiting Pose-Normalization for Fine-Grained Few-Shot Recognition** *CVPR 2020*

Luming Tang, **Davis Wertheimer** and Bharath Hariharan  
Keypoint annotations yield fine-grained classifiers that learn novel, unannotated concepts.

* **Few-Shot Learning with Localization in Realistic Settings** *CVPR 2019,* ***oral***

**Davis Wertheimer** and Bharath Hariharan  
Lightweight techniques *double* the accuracy of novel concept learners on difficult, skewed class distributions.

**WORK EXPERIENCE**

* **Research Assistant, Cornell Graphics and Vision Group** *September 2017 – present*

Conducting advanced research in Computer Vision and Machine Learning, and writing and producing research articles for publication in top-tier conference and journal venues.

* **Teaching Assistant, Cornell Department of Computer Science** *September 2016 – September 2017*

Helped conduct coursework for both high-level and introductory computer science classes.

* **Research Assistant, Stanford Computation and Cognition Lab** *November 2014 – June 2015*

Produced linguistic/psychological experiment modules and performed data analysis.

* **Advisory Software Engineer, IBM Corporation** *July 2014 – September 2014*

Worked on development of IBM’s ITA/CTA Experimentation Facility, an online network-science-experiment hosting and sharing service.

* **Research Assistant, Bill Lane Center for the American West** *October 2014 – June 2014*

Researched and produced interactive online and museum displays for Stanford’s Bill Lane Center, in collaboration with the Cantor Art Museum.

**HONORS, AWARDS, AND MEMBERSHIPS**

* **CVPR 2021 Outstanding Reviewer** *2021*

Nomination for services as a volunteer anonymous peer-reviewer

* **Phi Beta Kappa** *2016*

Invited membership based on coursework performance in science and arts

* **Intel Science Talent Search Semifinalist** *2012*

I qualified as one of 300 semifinalists nationwide, for my scientific study *“Implicit Processes in Conscious Problem-Solving”*

* **Horace Greeley High School Class of 2012 Salutatorian** *2012*

Second highest grade-point average from a graduating class of over 300 students

* **Scholastic Art and Writing National Gold Key**  *2011*

I won the highest national award for one of my fractal digital art pieces

**SKILLS AND STRENGTHS**

* **Coding Languages**

Python, Java, C++, C, working familiarity with MATLAB, JavaScript, Julia and R

* **Deep Learning Frameworks**

PyTorch, SciPy, NumPy

* **Abstract Reasoning**

High-level conceptual understanding, creative problem-solving, literature search

* **Presentation Skills**

Technical and non-technical writing, oral presentation, LaTeX, image processing, video production, HTML