Hazel Doughty

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RESEARCH FOCUS

My research focus is fine-grained video understanding, where I aim to solve challenging problems with limited labelled data. Particularly, I have explored assessing skill in video, recognizing adverbs, weak supervision from narrations, domain adaptation, self-supervision and learning video-text embeddings.

RESEARCH EXPERIENCE

Assistant Professor (universitair docent 2), LIACS, Leiden University — Sep 2023 -
Supervising PhD and Masters students in the Vision and Imaging cluster.

Post-Doctoral Researcher, Informatics Institute, University of Amsterdam — Dec 2020 - Aug 2023
Working with Prof. Cees Snoek and 4 PhD students on topics in video understanding, including self-supervised learning, multi-modal learning, open-set and domain adaptation.

Visiting Researcher, INRIA, Paris — Jan 2019 - March 2019
Visited the Willow Research Group and worked with Prof. Ivan Laptev on understanding adverbs from instructional videos.

EDUCATION

PhD in Computer Vision, Department of Computer Science, University of Bristol — Sep 2016 - Sep 2020
Supervisors: Prof. Walterio Mayol-Cuevas, Prof. Dima Damen
Thesis: Skill Determination from Long Videos
Examiners: Prof. Josef Sivic and Prof. William T. Freeman
EPSRC DTP Funding
EPSRC Project Glance (EP/N013964/1)

MEng in Computer Science, Department of Computer Science, University of Bristol — Sep 2012 - June 2016
First Class Degree - Top Ranked Graduate

PUBLICATIONS

Learning Unseen Modality Interaction
Yunhua Zhang, Hazel Doughty, Cees G. M. Snoek
ArXiv Preprint, 2023

Tubelet-Contrastive Self-Supervision for Video-Efficient Generalization
Fida Mohammad Thoker, Hazel Doughty, Cees G. M. Snoek
International Conference on Computer Vision (ICCV), 2023

Day2Dark: Pseudo-Supervised Activity Recognition Beyond Silent Daylight
Yunhua Zhang, Hazel Doughty, Cees G. M. Snoek
ArXiv Preprint, 2022

How Severe is Benchmark-Sensitivity in Video Self-Supervised Learning?
Fida Mohammad Thoker, Hazel Doughty, Piyush Bagad, Cees G. M. Snoek.
European Conference on Computer Vision (ECCV), 2022

How Do You Do It? Fine-Grained Action Understanding with Pseudo-Adverbs
Hazel Doughty, Cees G. M. Snoek
Conference on Computer Vision and Pattern Recognition (CVPR), 2022

Audio-Adaptive Activity Recognition Across Video Domains
Yunhua Zhang, Hazel Doughty, Ling Shao, Cees G. M. Snoek
Conference on Computer Vision and Pattern Recognition (CVPR), 2022

Rescaling Egocentric Vision: Collection, Pipeline and Challenges for EPIC-KITCHENS-100
Dima Damen, Hazel Doughty, Giovanni Maria Farinella, Antonino Furnari, Evangelos Kazakos, Jian Ma, Davide

Moltisanti, Jonathan Munro, Toby Perrett, Will Price, Michael Wray.
Interational Journal of Computer Vision (IJCV), 2021

Skeleton-Contrastive 3D Action Representation Learning
Fida Mohammad Thoker, Hazel Doughty, Cees G. M. Snoek
ACM International Conference on Multimedia (ACMMM), 2021

On Semantic Similarity in Video Retrieval
Michael Wray, Hazel Doughty, Dima Damen
Conference on Computer Vision and Pattern Recognition (CVPR), 2021

The EPIC-KITCHENS Dataset: Collection, Challenges and Baselines
Dima Damen, Hazel Doughty, Giovanni Maria Farinella, Sanja Fidler, Antonino Furnari, Evangelos Kazakos, Davide Moltisanti, Jonathan Munro, Toby Perrett, Will Price, Michael Wray
IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2020

Action Modifiers: Learning from Adverbs in Instructional Videos
Hazel Doughty, Ivan Laptev, Walterio Mayol-Cuevas, Dima Damen
Conference on Computer Vision and Pattern Recognition (CVPR), 2020

The Pros and Cons: Rank-aware Temporal Attention for Skill Determination in Long Videos
Hazel Doughty, Walterio Mayol-Cuevas, Dima Damen
Conference on Computer Vision and Pattern Recognition (CVPR), 2019

StopWatch: The Preliminary Evaluation of a Smartwatch-based System for Passive Detection of Cigarette Smoking
Andrew L Skinner, Christopher J Stone, Hazel Doughty and Marcus R Munfo
Nicotine and Tobacco Research, 21(2), 2019

Scaling Egocentric Vision: The EPIC-KITCHENS Dataset
Dima Damen, Hazel Doughty, Giovanni Maria Farinella, Sanja Fidler, Antonino Furnari, Evangelos Kazakos, Davide Moltisanti, Jonathan Munro, Toby Perrett, Will Price, Michael Wray
European Conference on Computer Vision (ECCV), 2018. (Oral)

Who's Better? Who's Best? Pairwise Deep Ranking for Skill Determination
Hazel Doughty, Dima Damen, Walterio Mayol-Cuevas
Conference on Computer Vision and Pattern Recognition (CVPR), 2018. (Spotlight)

SUPERVISION

Aozhu Chen, Visting PhD Student from Renmin University	2023-present
Fida Mohammad Thoker, PhD Student (with Cees Snoek)	2021-present
Yunhua Zhang, PhD Student (with Cees Snoek)	2021-present
Sarah Rastegar, PhD Student (with Cees Snoek)	2020-present
Piyush Bagad, MS Intern (with Cees Snoek)	2021-2022
Michael Kozak, Master's Thesis	2021
Chang Liu, Master's Thesis	2020-2021
Oguzhan Kizltepe, Master's Thesis	2020

TEACHING

Unit Director, Informatics Institute, University of Amsterdam 2022
Leren & Beslissen (English: Learning and Decision Making), Y2 Bachelor's in AI

Teaching Assistant, Department of Computer Science, University of Bristol 2016-2020
Multiple undergraduate and master's computer science courses including
Data Structures and Algorithms (Y2), Symbols, Patterns and Signals (Y2),
Advanced Algorithms (Y3), Applied Deep Learning (Master's)

AWARDS, HONOURS & DISTINCTIONS

NWO Veni (€280,000)	2023
ELLIS Member	since 2022
EPSRC Doctoral Training Program Funding (£53,000)	2016-2020
Top Graduating MEng Student, Department of Computer Science	2016
Best Research MEng Project, Department of Computer Science	2016

REVIEWING DUTIES

Associate Editor

Computer Vision and Image Understanding	since April 2023

Area Chair

International Conference on Computer Vision	2023
Winter Conference on Applications of Computer Vision	2023

Reviewer

Conference on Computer Vision and Pattern Recognition	2020-2023
International Conference on Computer Vision	2019-2021
European Conference on Computer Vision	2020-2022
Conference on Neural Information Processing Systems	2022-2023
Transactions on Pattern Machine Intelligence	2020-2023
International Journal of Computer Vision	2020-2023
Winter Conference on Applications of Computer Vision	2020-2021
International Conference on Learning Representations	2021
AAAI Conference on Artificial Intelligence	2020
Asian Conference on Computer Vision	2020

Outstanding Reviewer

CVPR 2023, ECCV 2022, ICCV 2021, CVPR 2021, ECCV 2020, ACCV 2020

ORGANIZATION

Conferences

British Machine Vision Conference (BMVC) Workshop Chair	2023
Netherlands Conference on Computer Vision	2022

Workshops

Workshop on Pre-registration in ML	NeurIPS 2021
Structured Representations for Video Understanding Workshop	ICCV 2021
Women in Computer Vision Workshop	CVPR 2020
Egocentric Perception, Interaction and Computing Workshop	CVPR and ECCV 2020

INVITED TALKS & PANELS

Reducing Supervision Towards Detailed Video Understanding, *Invited Talk*, LEMP Symposium	2023
Reducing Supervision Towards Detailed Video Understanding, *Invited Talk*, L3D-IVU Workshop at CVPR	2023
Fine-grained Action Understanding with Adverbs, *Invited Talk*, Rising Stars in AI Symposium, KAUST	2023
Understanding Actions in Video, *Guest Lecture*, University of Catania	2022
Finer-Grained Video Understanding, *Invited Talk*, Video Understanding Symposium	2022
Women in Computer Vision Panel, *Panelist*, WiCV Workshop at CVPR	2022
Understanding Actions in Video, *Invited Talk*, Computer Vision by Learning ASCI Course	2022
Introduction to Video Understanding, *Guest Lecture*, Computer Vision II, University of Amsterdam	2021
What Are You Doing and How Are You Doing It?, *Invited Talk*, University of Toronto	2021
Action Modifiers, *Spotlight*, Video Pentathlon Workshop at CVPR	2020
Skill Determination in Video, *Invited Talk*, Microsoft Research Cambridge	2019
Who's Better? Who's Best?, *Spotlight*, CVPR	2018
Skill Determination from Egocentric Video, *Spotlight*, EPIC Workshop at ICCV	2017

MEDIA COVERAGE

Quickly or slowly, gently or firmly? Computer starts understanding how an action takes place
University of Amsterdam News 12th July 2022