

Dawit Mureja Argaw

Ph.D. Candidate, EE, KAIST

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EDUCATION

- **KAIST** Daejeon, South Korea
Integrated M.S./Ph.D. in Electrical Engineering; supervised by Prof. In So Kweon
Sep 2019 - Present
- **KAIST** Daejeon, South Korea
M.S. in Electrical Engineering; supervised by Prof. In So Kweon
Sep 2018 - Aug 2019
- **KAIST** Daejeon, South Korea
B.S. in Electrical Engineering; GPA: 3.9/4.3 (Magna Cum Laude)
Sep 2014 - Jul 2018

RESEARCH INTERESTS

My research interests lie in the general areas of computer vision and deep learning with a particular focus on image/video enhancement, motion estimation, video synthesis, compression and editing.

PUBLICATIONS

International Conferences

- **Dawit Mureja Argaw**, Fabian Caba Heilbron, Markus Woodson, Joon-Young Lee, In So Kweon. The Anatomy of Video Editing: A Dataset and Benchmark Suite for AI-Assisted Video Editing. In *European Conference on Computer Vision (ECCV)*, 2022.
- **Dawit Mureja Argaw**, In So Kweon. Long-term Video Frame Interpolation via Feature Propagation. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022.
- **Dawit Mureja Argaw**, Junsik Kim, Francois Rameau, Chaoning Zhang, In So Kweon. Restoration of Video Frames from a Single Blurred Image with Motion Understanding. In *IEEE Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)*, 2021. (**Oral**)
- **Dawit Mureja Argaw**, Junsik Kim, Francois Rameau, In So Kweon. Motion-blurred Video Interpolation and Extrapolation. In *Thirty-Fifth AAAI Conference on Artificial Intelligence (AAAI)*, 2021.
- **Dawit Mureja Argaw**, Junsik Kim, Francois Rameau, Jae Won Cho, In So Kweon. Optical Flow Estimation from a Single Motion-blurred Image. In *Thirty-Fifth AAAI Conference on Artificial Intelligence (AAAI)*, 2021.
- Chaoning Zhang*, Philipp Benz*, **Dawit Mureja Argaw**, Seokju Lee, Junsik Kim, Francois Rameau, Jean Charles Bazin, In So Kweon. ResNet or DenseNet: Introducing Shortcuts to ResNet. In *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2021.
- Chaoning Zhang, Francois Rameau, Junsik Kim, **Dawit Mureja Argaw**, Jean Charles Bazin, In So Kweon. DeePTZ: Deep Self-Calibration for PTZ cameras. In *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2020.
- Chaoning Zhang, Francois Rameau, Seokju Lee, Junsik Kim, Philipp Benz, **Dawit Mureja Argaw**, Jean Charles Bazin, In So Kweon. Revisiting Residual Networks with Nonlinear Shortcuts. In *British Machine Vision Conference (BMVC)*, 2019. (**Spotlight**)

International Journals

- **Dawit Mureja Argaw***, Malinda Vania*, Deukhee Lee. Automatic spine segmentation from CT images using convolutional neural network via redundant generation of class labels. In *Journal of Computational Design and Engineering (JCDE)*, 2019. (*equal contribution)

RESEARCH EXPERIENCE

- **Adobe Research** San Jose, CA (Remote)
Research Intern, Deep Learning Group *Aug 2021 - Nov 2021*
 - Research on learning film editing patterns from a movie scene anatomy towards the goal of achieving AI-assisted movie editing.
- **KAIST Robotics and Computer Vision Lab** Daejeon, South Korea
Research Assistant *Sep 2018 - Present*
 - Research on various computer vision tasks such as Image/Video deblurring, Optical flow estimation and Video frame interpolation.
- **KAIST Artificial Intelligence and Machine Learning Lab** Daejeon, South Korea
Undergraduate Research Participation *Jan 2017 - Dec 2017*
 - Researched on new mechanisms to enhance the performance of Memory Augmented Neural Networks (MANN) for one-shot learning and Visual Question Answering (VQA) tasks. Won an Excellent Research Award (1500\$).
- **KIST Medical Navigation Laboratory** Seoul, South Korea
Research Internship *Jul 2017 - Sep 2017*
 - Researched on segmenting the spine from Computed Tomography (CT) images using CNNs. Published a journal paper as a first co-author on Journal of Computational Design and Engineering (JCDE).

HONORS AND AWARDS

- **Magna Cum Laude**, KAIST Electrical Engineering Department, Aug 2018
- **Excellent Research Award**, KAIST Undergraduate Research Participation (URP), Sep 2017
- **Dean's List**, KAIST School of Freshman, Feb 2015
- **KAIST Alumni Foundation Scholarship**, 2015
- **KAIST Scholarship**, Full scholarship for B.S., M.S. and Integrated M.S./Ph.D. programs, 2014-Present

SKILLS

- **Prog. Lang.:** Python, Matlab, C, Java, \LaTeX
- **Deep Learning:** Pytorch, Tensorflow, Keras.
- **Library:** Numpy, Scipy, Scikit-learn, OpenCV, Matplotlib.

ACADEMIC SERVICES

- **Reviewer:** CVPR 2021, ICCV 2021, CVPR 2022, ECCV 2022
- **Student Volunteer:** ICLR 2020, ICML 2020, NeurIPS 2020

REFERENCES

- **Prof. In So Kweon**
Professor, School of Electrical Engineering, KAIST
Relationship: M.S. and Ph.D. advisor
Email: iskweon77@kaist.ac.kr
- **Dr. Fabian Caba Heilbron**
Research Scientist, Adobe Research
Relationship: Internship mentor and collaborator
Email: caba@adobe.com
- **Dr. Joon-Young Lee**
Senior Research Scientist, Adobe Research
Relationship: Internship mentor and collaborator
Email: jolee@adobe.com
- **Prof. Chang D. Yoo**
Professor, School of Electrical Engineering, KAIST
Relationship: Undergraduate research advisor
Email: cd_yoo@kaist.ac.kr