KALEAB A. KINFU

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EDUCATION

Johns Hopkins University, USA   *Sep 2020 - Present*
Biomedical Engineering (Data Science)

Erasmus Mundus Joint Master in Image Processing and Computer Vision   *Jul 2020*
    Université de Bordeaux, France
    Master of Science (M.S.) in Computer Science, *mention très bien*
    Universidad Autónoma de Madrid, Spain
    M.S. in Image Processing and Computer Vision, *Honours*
    Pazmany Peter Catholic University, Hungary
    M.S. in Computer Science & Engineering, *Honours*

Addis Ababa University, Ethiopia   *Jul 2017*
Bachelor of Science (B.S.) in Computer Science, *Very Great Distinction*

RESEARCH SCHOOL

The Cornell, Maryland, Max Planck Pre-doctoral Research School, Germany   *Aug 2020*
Emerging Research Trends in Computer Science
The Cornell, Maryland, Max Planck Pre-doctoral Research School, Germany   *Aug 2019*
Emerging Research Trends in Computer Science

EXPERIENCE

NeuroData, JHU   Sep 2020 - Present
Research Assistant   *Baltimore, USA*

· Working under the supervision of Prof. Joshua T. Vogelstein on a state-of-the-art framework called progressive learning that realizes backward and forward knowledge transfer by improving performance on both past and future tasks in a variety of simulated and real data scenarios in decision forests and deep networks.

Institute of Computer Graphics and Vision, TU Graz   Feb 2020 - Jul 2020
Research Associate   *Graz, Austria*

· Worked under the supervision of Prof. Horst Bischof on my master thesis entitled 'Continual Lifelong Learning for Autonomous Vehicles'. We investigated CNN based methods for the task of continual lifelong learning for autonomous vehicles learning problems, particularly monocular depth estimation.

Video Processing and Understanding Lab   Jun 2019 - Aug 2019
Research Intern   *Madrid, Spain*

· Developed a multi-projection variant of YOLO detector and a tool for the automatic generation of ground-truth data for object detection of Google Street View images.

Addis Ababa University   Sep 2017 - Sep 2018
Assistant Lecturer   *Addis Ababa, Ethiopia*

· Developed own teaching materials, methods and approaches taking into account established or agreed on practices where necessary.
· Taught in a variety of settings from small group tutorials to large lectures.

Addis Ababa Water and Sewerage Authority   Sep 2017 - Jan 2018
Biometric Systems Developer   *Addis Ababa, Ethiopia*

· Designed and developed biometric systems, and performed system management functions including system setup and monitoring in 11 branches across the city.

HONORS AND AWARDS

Erasmus+, Erasmus Mundus Joint Master Scholarship (EUR 49,000)	*2018 - 2020*
Best Bachelor Thesis Award, Addis Ababa University	*2017*
Very Great Distinction, Dux of College of Natural Sciences, Addis Ababa University	*2017*

TECHNICAL STRENGTHS

Languages   Python, C/C++, Matlab, C#,
Libraries   Pytorch, Tensorflow, Keras, Scipy, sklearn, OpenCV, OpenGL, PCL
Tools   Unity3D, Blender, Xilinx, LaTeX, git

PROJECTS

Lifelong Learning for Autonomous Vehicles   *Feb 2020 - July 2020*
Proposed and developed a self-supervised and a confidence-guided depth supervised domain adaptation technique. Developed a mixture of standard- and pseudo- rehearsal approaches that rely on the basis of rehearsing past knowledge with a replay mechanism to prevent catastrophic forgetting

Ground-truth generation for Google Street View images   *Jun 2019 - Sept 2019*
Developed a tool for the automatic generation of ground-truth data for object detection of Google Street View images

Object Detection in Equirectangular Panorama   *Jun 2019 - Sep 2019*
Proposed and developed a multi-projection variant of YOLO detector for Equirectangular Panorama, specifically Google Street View images.

3D Shape Prediction from single RGB image based on Deep Learning   *Feb 2019 – Feb 2020*
Worked on a deep learning technique aiming to infer 3D shape from single RGB image.

Deep Learning based Pedestrian Detection   *Mar 2019 – Apr 2019*
A real-time fine-tuned pedestrian detection system based on different deep-learning object detection techniques including YOLO, SSD and MaskRCNN.

Image Smoothing for FPGA with high level synthesis   *Nov 2018 – Jan 2019*
Implemented an image smoothing technique, namely median filter, to reduce the effect of pixel noise in images based on FPGA so that to provides high-speed performance of the algorithm.

Ethiopian Sign Language to Amharic Text Translator   *Jan 2018 – Jun 2018*
Developed Ethiopian sign language to Amharic text translation system that converts a gesture into its corresponding Ethiopian Sign Language and displays an equivalent Amharic text.

Automated Optical Mark Reader   *Sep 2017 – Jan 2018*
Developed an automated optical mark reader built for Ethiopian National Educational Assessment and Examinations Agency's national examinations

Intelligent Traffic Management System   *Mar 2015 – Jul 2017*
An autonomous and an intelligent traffic management system that can dynamically allot traffic signal time based on density, track vehicles, recognize license plates and estimate their speed, manage smart parking, and provide real-time incident notifications.

- Awarded as the innovative project of the year by Addis Ababa University and YeBen Endowment Fund

Office Collaboration Suite   *Sep 2016 – Mar 2016*
A desktop application that help colleagues of an office communicate easily. Some of its features are virtual notice board, chat, video chat, video conferencing, to-do list management, and file sharing.

eBrana – online bookstore   *Sep 2014 – Feb 2015*
A web application that provides an opportunity for writers to self publish books on an online store. Books are digitized to a highly secure e-book format with 'copy and content protection', readers having privileges to the degree that the authors permit. When consumers buy a book from this store, they get a protected e-book file and a single security code. The copy protection includes preventing users from printing, copying and pasting, taking screen print, and the e-book shall only work on a single device with a single security code.