KEVIN WANG

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EDUCATION

University of California, Berkeley | Berkeley, CA ⸱ August 2020 - May 2024
Bachelor of Arts in Computer Science
- **Organizations:** UC Berkeley IEEE, Engineering Student Council, Berkeley Speech and Computation Lab, CITRIS and the Banatao Institute, Fung Fellowship, CS 61A Academic (Teaching) Intern
- **Undergraduate Coursework**: Data Structures, Discrete Mathematics and Probability Theory, Artificial Intelligence
- **Graduate Coursework**: Optimization Models, Machine Learning, Deep Learning and Phonology (Seminar)

WORK EXPERIENCE

MIT Lincoln Laboratory | *Software Development Intern* ⸱ May 2022 – Aug 2022
- Developed a low-cost, rapidly deployable HF transponder platform, saving 98% of prior transponder operating costs in the field.
- Applied graph neural networks for radar signal classification, increasing accuracy from prior YOLO model by 28%.
- Increased the efficiency of Horizon real-time over-the-horizon radar software through implementing ArrayFire tensor functions.
- Assisted operations and teardown of DARPA-funded HF over-the-horizon radar array project through onsite software development and hardware maintenance at White Sands Missile Range, NM.

NASA Goddard Space Flight Center | *Research Intern* ⸱ May 2021 – Aug 2021
- Developed & tested custom TF & Keras applications on the DGX HPC cluster to improve DL parallel training performance.
- Drafted a standard tutorial & report for migrating Earth science DL applications to GPU & multi-GPU-based environments.
- Delivered a package containing four Earth science DL applications with model & data parallelism for testing GPU platforms.
- Presented 'AI/ML/DL Benchmarks for Earth Science Applications' alongside fellow NASA and George Mason University NSF STC researchers at the ACM/IEEE SC21 conference.

National Science Foundation | *Undergraduate Research Fellow* ⸱ May 2021 – Aug 2021
- Developed an image classification service deployed on AWS to enable rapid sea ice processing for climate & cryosphere research.
- Created & analyzed UNet, FCN, & DeepLabV3 semantic segmentation benchmarks to define a model baseline.
- Implemented a novel deep learning semantic segmentation model pipeline with PyTorch to improve classification accuracy by 36%.
- Contributing author for 'ArcCI: a sea ice high resolution aerial image management and processing platform' in Recent Advancements in Geoinformatics and Data Science (GSA Books).

Harvard University Center for Geographical Analysis | *Research Intern* ⸱ Nov 2020 – June 2021
- Documented 100+ key community resources & underlying infrastructure important for the mitigation of COVID-19 impacts.
- Produced a literature review of 1,298 papers on the state & utility of geospatial analysis tools in the COVID-19 research community.
- Conducted statistical NLP data analysis with NLTK, matplotlib, NetworkX, & pandas to identify the utility of geospatial analysis tools.
- Contributing author for 'Quantitative geographical approaches in COVID-19 research: A review on first- and second-order impacts' in Geospatial Stories of the Global COVID-19 Pandemic (Springer Nature).

PROJECTS

Video Models for Efficient Disease Detection using Echocardiograms (2022) – Tested various state-of-the-art DNN video model architectures and pre-training approaches to improve the training efficiency and overall accuracy of video-based disease detection models.

Modelling Amyloid Beta Plaque Formation in Alzheimer's Disease (2021) – Explainable CNN & VAE models learning the relationship between plaque morphology and molecular variation and determining the presence of amyloid plaques (protein aggregates).

Citation.ai (2021) – Web application built using Python, React, & the OpenAI GPT-3 API to generate accurate & efficient citations following APA guidelines for researchers, students, & research librarians.

Telepath Application (2020) – Mobile application using deep autoencoders for video compression coupled with hardware acceleration to allow for people with unstable internet connections to remain connected with remote healthcare professionals.

SKILLS AND AWARDS

Languages: Python • Java • C++ • SQL • HTML/CSS • JavaScript/TypeScript • LaTeX
Frameworks/Tools: Git • Linux • Docker • AWS • GCP • PyTorch • TensorFlow • Keras • XGBoost • React
Honors/Awards: IBM Award at Cal Hacks • Cal Leadership Award • GitHub Education Campus Expert • UN Millennium Fellow