Xinyu Kang

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EDUCATION AND AWARDS

Harvard University — **Boston, Cambridge**
Master of Computational Science and Engineering (CSE ME) — *Sep 2022 – May 2024*

University of British Columbia (UBC) — **Vancouver, Canada**
Bachelor of Computer Science (BA) — *Sep 2017 – May 2022*

- **GPA: 4.0**/4.0
- **Outstanding International Student Award** — *July 27th, 2017*
- **Faculty of Arts International Student Scholarship** — *Dec 14th, 2019*
- **Trek Excellence Scholarship for Continuing Students** — *Feb 22nd, 2020 & Aug 18th, 2021*
- **Trek Excellence Scholarship for International Students** — *Oct 17th, 2020*

RESEARCH PAPERS

- **ICCV 2021 (selected for oral):** SimROD: A Simple Adaptation Method for Robust Object Detection (*https://arxiv.org/abs/2107.13389*).
- **BMVC 2022:** Model Composition: Can Multiple Neural Networks be Combined into a Single Network Using Only Unlabelled Data?
  (https://www.bmvc2021-virtualconference.com/assets/papers/0508.pdf)
- **SPIE 2022 (selected for oral)**: A Light-Weight Deep Video Network: Towards Robust Assessment of Ejection Fraction on Mobile Devices.
  (https://www.spiedigitallibrary.org/conference-proceedings-of-spie/12034/120341I/A-light-weight-deep-video-network--towards-robust-assessment/10.1117/12.2611176.short?SSO=1)

WORK EXPERIENCE

Robotics and Control Laboratory in University of British Columbia (UBC RCL) — **Vancouver, Canada**
Work Learn International Undergraduate Research Awards (WLIURA) — *May 3rd – Aug 20th 2021*

- Implemented a modified Tiny Video Network (TVN) for video-based Ejection Fraction (EF) measurement in echocardiography (echo).
- Achieved a comparable accuracy with the contemporary state-of-the-art video-based model (the Echonet-Dynamic approach), while having a 100 times smaller model size.
- Embedded aleatoric uncertainty in the network to model the inherent noise and ambiguity of EF labels in echo data to improve the prediction's robustness.
- The proposed network is suitable for real-time video-based EF estimation compatible with portable mobile devices and is **deployed for Point-of-Care ultrasound system in Vancouver General Hospital**.
- Submitted a related paper for 2022 SPIE Medical Imaging Conference.

Huawei Technologies Canada **Burnaby, Canada**
Assistant Engineer of Applied AI Team *May 7th – Dec 31st 2020*

- Developed an end-to-end Model Composition system that is able to combine an arbitrary number of neural networks with arbitrary architectures.
- The system does not require ground-truth annotations from the original data, or any knowledge of input model weights or code. It does not place any restrictions on the type and number of object categories of the input models.
- Facilitated in implementing a self-labeling adaptation system that improves the robustness of object detection models against image corruptions without the need for labeled images from the target test domain.
- Worked with colleagues to submit conference (ICCV & BMVC) papers and apply for patents.

JOMAR Softcorp International **Vancouver, Canada**
Full-Stack Junior Programmer *Jan 1st – May 1st 2020*

- Implemented user interface and created new features on JOMAR web and mobile system using Java, SQL, xml/xsl, query and dashboards.
- Worked with a team of 6 to address regular production bugs and make service improvements.
- Clearly and concisely communicated with product managers and stakeholders to ensure timely delivery.

State Grid Shanghai Electric Power Research Institute **Shanghai, China**
Department of Science and Technology (Technical Service Center) *Jul 8th – Aug 23rd 2019*

- Coordinated with a large team to complete the mid-term evaluation of the 'μ-PMU' national research project, helped make the Gantt chart of the research progress and prepared the exhibition boards.
- Participated in the early-stage preparation of the construction of the national big data laboratory in Shanghai.
- Wrote a research paper on the basic operation and management system of national laboratories in the US and presented it in the annual summary meeting.

HACKATHON

Fireaware (*Won the most social impact award)* **Javascript, HTML, Python**
Hacking for Humanity - Girls in Tech Vancouver *May 2019*
(https://devpost.com/XinyuKang?ref_content=user-portfolio&ref_feature=portfolio&ref_medium=global-nav)

- *Brainstormed and worked with team formed on day of hackathon to create a website app* that provides fire prediction and fire alerts within North America.
- Developed a prediction model using a linear regression machine learning algorithm with fire historical data from NASA's satellite image system to show daily probability of a fire occurring.

PROFESSIONAL SKILLS

- **Programming Languages:** Python, Java, Javascript, C/C++, Typescript, SQL
- **Machine Learning Libraries:** TensorFlow, Keras, PyTorch, Scikit-learn
- **Tools & Platforms:** PyCharm, Anaconda, Git, Visual Studio Code, Webstorm, IntelliJ
- **Operating Systems:** Linux, Windows