XINMIAO LIN

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EDUCATION

Rochester Institute of Technology, Rochester, NY, USA *August 2020 - Present*
Ph.D. in Computer Science
Advisor: Dr. Yu Kong

University of Massachusetts, Amherst, MA, USA *August 2018 - June 2020*
M.Sc. in Computer Science

McGill University, Montreal, QC, Canada *August 2014 - June 2018*
B.Sc. in Mathematics and Computer Science

RESEARCH INTERESTS

- Computer Vision: model explainability, video/image understanding
- Others: causal learning, adversarial machine learning, model compression

PUBLICATION

1. **Xinmiao Lin**, Wentao Bao, Matthew Wright, Yu Kong. Gradient Frequency Modulation for Visually Explaining Video Understanding Models. British Machine Vision Conference (**BMVC**) 2021.

PROJECTS

Gradient Frequency Modulation for Visually Explaining Video Understanding Models
Advisor: Dr. Yu Kong
- Developed an optimization algorithm to visually explain video understanding models in saliency maps.
- Used Discrete Cosine Transform to denoise the visual saliency maps for spatiotemporal consistent explanations.
- Wrote the paper and performed the experiments.

On The Effectiveness of Moving Target Defense Against Adversarial Black-Box Attacks on Neural Networks
Advisor: Dr. Liangliang Cao
- Developed a defense algorithm inspired from the moving target defense technique in cybersecurity.
- Tested the defense algorithm against multiple black-box adversarial attacks and obtained state-of-the-art performance.

WORK EXPERIENCE

Amazon AWS, Vancouver Canada *June 2020 - August 2020*
Software Engineer Intern
- Developed a linear regression model in Java to predict the effects of database migration.
- Presented the project to the team and obtained positive feedback from supervisors.

Amazon AWS, Vancouver Canada *June 2019 - August 2019*
Software Engineer Intern
- Developed a new webservice feature that allows customers to cancel the creation of large databases snapshots.
- Wrote unit tests and system tests for the feature and received positive feedback from the team.

TECH SKILLS

DL/CV Tools PyTorch, Tensorflow, Keras, OpenCV
Programming Languages Python, Java, C/C++, MATLAB, F, Ocaml

ACADEMIC SERVICES

Conference Reviewer:
CVPR (2021), ICCV (2021), IJCAI (2021), ACM MM (2020 & 2021), AAAI (2021), ICMLA (2020), MLSP (2021)

Journal Reviewer:

- IEEE Robotics and Automation Letters (RA-L)
- Multimedia System Journal (MMSJ, Springer)
- IEEE Transactions on Neural Networks and Learning Systems