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WUDI WANG

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EDUCATION

Princeton University Princeton, NJ
- **PhD.** in Physics 2013-2019 (expected)
- **M.A.** in Physics 09/24/2016
- Relevant Coursework: Machine Learning & Pattern Recognition, Computer Vision, Algorithms and Data Structures

University of Science and Technology of China Hefei, Anhui, China
- **B.S.** in Applied Physics, School of the Gifted Young, GPA: 3.96/4.30, Rank: 1st / 44 2009-2013
- Relevant Coursework: C Programming Language, Computational Physics, Linear Algebra, Mathematical Analysis, Probability Theory and Math. Statistics
- Awards: Guo Moruo Scholarship (the Highest Honor in USTC, 2013), National Scholarship (2012)

RESEARCH AND TECHNICAL EXPERIENCE

Deep Learning Projects:

CVPR 2018 WAD Video Segmentation Challenge (2018), hosted by CVPR 2018 Workshop on Autonomous Driving
- Kaggle Competition; Rank: 4th / 145 (top 2%) worldwide; Prize Winner
- Developed a detector to predict instance segmentations for movable objects in autonomous-driving scenario, such as cars and pedestrians, with good performance for small objects and high video resolution.
- Customized Mask-RCNN allowed training at original resolution possible with limited computation resources.
- https://github.com/wwoody827/cvpr-2018-autonomous-driving-autopilot-solution

The 2nd YouTube-8M Video Understanding Challenge (2018), hosted by Google AI.
- Kaggle Competition; Rank: 9th / 394 (top 2%) worldwide; Gold Winner
- Developed a video multi-label classification model with size-constrain on YouTube-8M Dataset, with 6.1 million videos and 3862 classes.
- Trained several different kinds of video classifiers and reached high prediction accuracy with model ensemble.
- Compressed model size by 90% with little performance loss using knowledge distillation.
- https://github.com/wwoody827/kaggle-youtube-8m-2018-404-not-found-solution

Princeton University, Department of Physics:
- Designed and constructed a Nano-Fabrication Lab dedicated for fabricating high quality superconducting devices.
- Established several standard Nano-Fabrication workflows and developed corresponding software toolbox for the lab.
- Developed and maintained a fully-automatic measurement software platform for performing experiments at low temperature and improved lab efficiency.
- Re-designed a closed circulation dilution refrigerator and corresponding subsystems.
- Manager for all thin film deposition equipment and ultra-low temperature cryostats in lab. Provided training and technical support all other users.
- Conducted first experiment that proves the exist of superconducting edge mode and independent pair condensates in Weyl Semimetal $MoTe_2$.
- Performed first tunneling spectroscopy measurement for proximity induced superconducting gap in $MoTe_2$.
- Discovered rapid transition between different Chern states in Quantum Anomalous Hall Insulator.

SELECTED PUBLICATIONS

- **Wudi Wang**, et al. “Evidence for independent pair condensates in the Weyl superconductor $MoTe_2$” (in review: **Science**)
- Liu, Minhao, **Wudi Wang**, et al. "Large discrete jumps observed in the transition between Chern states in a ferromagnetic topological insulator." **Science advances** 2.7 (2016): e1600167.
- Xiong, Jun, et al. "Evidence for the chiral anomaly in the Dirac semimetal Na3Bi." **Science** 350.6259 (2015): 413-416.

TECHNICAL SKILLS

- Programming Languages: Python, MATLAB, Java, LabVIEW
- Libraries/Platforms: PyTorch, TensorFlow, Keras, Pandas