Jiaxin Gu

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EDUCATION

- 2017.9-2020.1, Beihang University, M.S. in Pattern Recognition and Intelligent System (3/30)
- 2013.9-2017.6, Beihang University, B.Eng. in Automation Science (4/210+)

SELECTED PUBLICATIONS

- Projection Convolutional Neural Networks for 1-bit CNNs via Discrete Back Propagation, **Jiaxin Gu,** Ce Li, Baochang Zhang, Jungong Han, Xianbin Cao, Jianzhuang Liu, David Doerman. *The Thirty-Third AAAI Conference on Artificial Intelligence (**AAAI**, **Oral**)*, 2019.
- Circulant Binary Convolutional Networks: Enhancing the Performance of 1-bit DCNNs with Circulant Back Propagation,
  Chunlei Liu, Wenrui Ding, Xin Xia, Baochang Zhang, **Jiaxin Gu**, Rongrong Ji, Jianzhuang Liu. *IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**),* 2019.
- One-two-one networks for compression artifacts reduction in remote sensing,
  Baochang Zhang*, **Jiaxin Gu*,** Chen Chen, Jungong Han, Xiangbo Su, Xianbin Cao, Jianzhuang Liu. *ISPRS Journal of Photogrammetry and Remote Sensing (Top Journal in RS),* 2018.
- Deep-Patch Orientation Network for Aircraft Detection in Aerial Images,
  Ali Maher, **Jiaxin Gu**, Baochang Zhang. *Advances in Image and Graphics Technologies.* 2017.

SKILLS

- Knowledgeable in **DL model compression and acceleration, compression artifacts reduction, object classification and detection, machine learning.**
- Experienced in Python, MATLAB, C/C++, Shell. Familiar with Linux environment and CUDA.
- Proficiency with **PyTorch** (torchvision contributor), able to write *cpp-extension* and Caffe.
- Excellence in academic reading, writing and illustrations drawing. CET4: 592, CET6: 572.

INTERNSHIP

- **Microsoft Research Asian (MSRA)** *Data Knowledge Intelligence* Group 2019.05-Now
  Machine learning applied on Azure with massive data, so as to predict server status and optimize resources allocation. LightGBM and feature engineering are adopted skillfully.

SELECTED PROJECTS

- **Design and Application of 1-bit CNNs with HUAWEI** **Main contributor**
  To design an advanced algorithm to maintain the performance of CNNs with both the weights and activations binarized. We achieve the state-of-the-art binarized ResNet18 classification accuracy on **ImageNet**.
- **Implementation of Center Loss on PyTorch** **Owner**
  A popular third-party implementation of center loss with 200+ stars on GitHub, which exactly reproduces the function as the original one.

SELECTED AWARDS&HONORS

- Guorui Scholarship (top 2 of school), 2018
- Outstanding Student, 2016&2018
- National Endeavor Scholarship, 2015
- First-class Academic Scholarship, 2018
- Honorable Mention, MCM/ICM, 2016
- First-class Academic Scholarship, 2015

顾佳昕

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教育经历

- 2017.09 至 2020.01 北京航空航天大学 模式识别与智能系统 硕士(推免) 班级排名：3/30
- 2013.09 至 2017.06 北京航空航天大学 自动化 学士 专业排名：4/210+

科研经历

- Projection Convolutional Neural Networks for 1-bit CNNs via Discrete Back Propagation, **Jiaxin Gu,** Ce Li, Baochang Zhang, Jungong Han, Xianbin Cao, Jianzhuang Liu, David Doerman. *The Thirty-Third AAAI Conference on Artificial Intelligence (**AAAI**, **Oral**)*, 2019.
- Circulant Binary Convolutional Networks: Enhancing the Performance of 1-bit DCNNs with Circulant Back Propagation,
  Chunlei Liu, Wenrui Ding, Xin Xia, Baochang Zhang, **Jiaxin Gu**, Rongrong Ji, Jianzhuang Liu. *IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**),* 2019.
- One-two-one networks for compression artifacts reduction in remote sensing,
  Baochang Zhang*, **Jiaxin Gu*,** Chen Chen, Jungong Han, Xiangbo Su, Xianbin Cao, Jianzhuang Liu. *ISPRS Journal of Photogrammetry and Remote Sensing (遥感图像处理顶刊),* 2018.
- Deep-Patch Orientation Network for Aircraft Detection in Aerial Images,
  Ali Maher, **Jiaxin Gu**, Baochang Zhang. *Advances in Image and Graphics Technologies.* 2017.

专业技能

- 硕士期间重点研究**机器学习**、**深度学习模型压缩与加速**、**图像压缩效应修复和目标识别与检测**问题，发表顶会论文 2 篇、顶刊论文 1 篇，投稿 **ICCV2019** 一篇(**4 weak accepted**).
- 熟悉 Linux 开发环境，掌握 Python、MATLAB、C++、shell 等编程语言，熟悉 CUDA 并行编程.
- 熟悉深度学习 **PyTorch** 框架(torchvision 的 contributor)，擅长编写扩展模组，熟悉 **Caffe** 平台;
- 具备优秀的文献阅读与写作能力，CET4: 592, CET6: 572; 熟练使用 Latex 排版，擅长绘制论文插图.

实习经历

- **微软亚洲研究院(MSRA)** *Data Knowledge Intelligence* 组 2019.05-至今
  对 Azure 的海量数据进行机器学习建模，以预测服务器状态和优化资源配置. 与美方工程团队合作完成数据提取、数据筛选、特征工程和 LightGBM 建模等任务，以提高 Azure 的可靠性和节约成本。

项目经历

- **华为二值卷积神经网络的设计与应用** **主要参与者**
  在同时二值化卷积核与输入特征的条件下，通过增加一定比例的额外运算，使得 1-bit 卷积神经网络在 ResNet18 等结构上达到合同要求的 **ImageNet** 目标分类精度。该项目为实验室 CVPR 与 AAAI 工作的落地化成果.
- **Center Loss 的 PyTorch 版复现** **拥有者**
  对论文 center loss 进行 Caffe 到 PyTorch 的移植，正确且完整地复现了原代码，与论文中的实验效果完全一致. 随着 PyTorch 版本的更新，保持对该项目的维护，并在 GitHub 上获得 200+的 stars.

曾获奖励

- 中电十四所国睿奖学金(学院仅 2 人)，2018
- 北航优秀生，2016；优秀研究生，2018
- 国家励志奖学金，2015
- 北航学业一等奖学金(前 20%)，2018
- 美国大学生数学建模大赛二等奖，2016
- 北航学习优秀一等奖学金，2015