Huaipan Jiang

Email : hzj5142@cse.psu.edu
Mobile : +1-814-826-8979
Address : W340 Westgate building
The Pennsylvania State University
State College, PA, 16802, USA

EDUCATION

- **The Pennsylvania State University** — State College, USA
  Ph.D in Computer Science and Engineering; GPA: 3.79 — *Jan. 2016 – present*
- **University of Science and Technology of China** — Hefei, China
  Bachelor of Engineering in Computer Science and Technology; GPA: 3.34 — *Aug. 2011 – July. 2015*

WORK EXPERIENCE

- **Google** — New York, USA
  Software Engineering Intern — *May. 2019 - Aug. 2019*
  Use Google internal machine learning tools to design and implement a crystal lattice regression model. This model is used to select the authority page for a local business on Google Map. I also train a tensorflow model to evaluate the performance between the DNN model and regression model.

- **Google** — New York, USA
  Software Engineering Intern — *May. 2018 - Aug. 2018*
  Designed and implemented a tensorflow model to predict the click through rate of the ads proposed by DoubleClick Bid Manager. Use Google internal tools to write the script to transit customers click signals from online datasets into tensorflow input data structure. This tensorflow framework contains both regression model and DNN model, and analyze the importance for each signals.

- **Microsoft Research Asia** — Beijing, China
  IT Assistant — *July. 2014 - Aug. 2014*
  Designed and implemented a DBLINQ web-based database application in C# to manage the assets and employee information for Microsoft Research Asia.

- **Rong Data** — Hefei, China
  Software Engineer — *Nov. 2013 - July 2014*
  - **Iflytek Education Project**:
    Implemented a web crawler to download web sites' data for analysis. Iflytek is a company that develops software to help middle school and high school students achieve better grade.
  - **Financial System for Commissioners Office of Treasury Department in Anhui Province**:
    This project aims to help companies submit financial information and the department officers better manage the information. Implemented the functionalities for creating database tables and excel table printing

RESEARCH EXPERIENCE

- **Machine Learning Applications** — Dec. 2016 - present
  Image Processing: Using approximate computing strategies to speedup exist CNN applications. Those applications are mainly designed for semantic image segmentation. The optimized application achieves higher speedup while maintain the same level of accuracy.
  Drug Discovery: Apply the 3D-CNN strategies on the dataset of protein-ligand binding problems. Using machine learning algorithms to improve the performance of traditional energy based binding applications.

- **GPU Architecture** — Feb. 2016 - present
  We design new architectures for GPU dynamic parallelism. Write the GPU parallel applications to test the benefits of memory access and execution time when scheduling the tasks on our new architecture.

- **Bioinformatics** May. 2014 - present

  Design and implement a parallel algorithm to improved some exist all-mapper sequence alignment algorithms in National High Performance Computing Centre. I also work in the Bioinformatic group in Penn State University and accelerate the exist algorithms on Muiltiprocessor system like GPU and Intel Xeon Phi and modify the algorithms code into Multiprocessor friendly version.

- **Wireless Sensor Network** Sept. 2013 - Jan. 2016

  Participated in a research project which proposed an algorithm for using mobile sensors to fortify the barrier of static wireless sensors.

- **Data Mining** Sept. 2012 - Dec. 2014

  Participated in the Sina USTC Schoolfellow Blog project and Iflytek Education Project. Implemented the web crawler programs to collected the data for analysis.

Honors and Awards

- Outstanding Undergraduate Scholarship (2014)
- Outstanding Undergraduate Scholarship (2012)
- Outstanding Undergraduate Scholarship (2011)
- First prize of National Olympiad in Informatics in Provinces (NOIP2010)
- First prize of National Olympiad in Informatics in Provinces (NOIP2009)
- First prize of National Olympiad in Informatics in Provinces (NOIP2008)

Programming Skills

- **Languages**: C++, C, Python, Matlab, PHP, C#, SQL,
- **Technologies**: Linux, CAFFE, Gem5, GPGPU-sim, Tensorflow

Publications

[1] **Huaipan Jiang**, Anup Sarma, Jihyun Ryoo, Jagadish B Kotra, Meena Arunachalam, Chita R Das, and Mahmut T Kandemir. A learning-guided hierarchical approach for biomedical image segmentation. In *2018 31st IEEE International System-on-Chip Conference (SOCC)*, pages 227–232, Sep. 2018.

[2] Sumitha George, Minli Julie Liao, **Huaipan Jiang**, Jagadish B Kotra, Mahmut Kandemir, Jack Sampson, and Vijaykrishnan Narayanan. Mdacache: Caching for multi-dimensional-access memories. In *51st Annual IEEE/ACM International Symposium on Microarchitecture, MICRO 2018*, pages 841–854. IEEE Computer Society, 2018.

[3] Xulong Tang, Ashutosh Pattnaik, **Huaipan Jiang**, Onur Kayiran, Adwait Jog, Sreepathi Pai, Mohamed Ibrahim, Mahmut T Kandemir, and Chita R Das. Controlled kernel launch for dynamic parallelism in gpus. In *High Performance Computer Architecture (HPCA), 2017 IEEE International Symposium on*, pages 649–660. IEEE, 2017.

[4] Biaofei Xu, Yuqing Zhu, Donghyun Kim, Deying Li, **Huaipan Jiang**, and Alade O Tokuta. Strengthening barrier-coverage of static sensor network with mobile sensor nodes. *Wireless Networks*, 22(1):1–10, 2016.

[5] Haoyu Cheng, **Huaipan Jiang**, Jiaoyun Yang, Yun Xu, and Yi Shang. Bitmapper: an efficient all-mapper based on bit-vector computing. *BMC bioinformatics*, 16(1):192, 2015.

[6] Biaofei Xu, Donghyun Kim, Deying Li, Joonglyul Lee, **Huaipan Jiang**, and Alade O Tokuta. Fortifying barrier-coverage of wireless sensor network with mobile sensor nodes. In *International Conference on Wireless Algorithms, Systems, and Applications*, pages 368–377. Springer, 2014.