Yulun Yao

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Education

- **University Of Illinois at Urbana-Campaign** — Champaign, IL
  B.S. Computer Science; GPA: 3.7; Expected: Dec.2019 — *Aug.2016 to present*

Selected Coursework

- Data Structure, Architecture, Intro to Operating System, Intro to Programming Language & Compiler, Algorithm & Models of Computations, Machine Learning, Information Retrieval, Database

Publications

- **Morph: Hardware-Software Codesign for Efficient Video Understanding**: Kartik Hegde, Rohit Agrawal, Yulun Yao, Christopher W. Fletcher; MICRO, 2018
- **CPUCNN: Weight Repetition-Aware DNN Inference for General-Purpose Devices**: Rohit Agrawal, Yulun Yao, Christopher J. Hughes, Christopher W. Fletcher; Under review by NeurIPS, 2019

Awards

- **Dean List**: 2016 to 2017, 2019
- **College Of Engineering James Scholar**: 2017 to 2018

Experience

- **Undergraduate Research Assistant** — Seattle, WA
  Work in Prof.Luis Ceze's Group on Machine Learning System — *June 2019 to present*
  - **TVM Project**: Work in SAMPL lab to build support for sparse networks (mainly targeting GNN inference and training) on TVM.

- **Undergraduate Research Assistant** — Champaign, IL
  Work in Prof.Christopher W. Fletcher's Group on Architecture & ML — *December 2017 to present*
  - **Morph Project**: Implemented video pre-processing with OpenCV; Experimented and Analyzed our Architecture on different networks regarding to performance and energy; Explored ideas to build a NN accelerator.
  - **SDH Project**: Profiled and analyzed performance bottlenecks of software on CPU and GPU for DARPA-SDH Project. Experienced basic CUDA and several profiling tools.
  - **CPUCNN Project**: Analyzed vector units on General Intel CPUs. Worked on resolving cache split load issues in fast path. Analyzed and adopted several quantization mechanisms. Set up experiment environments.

- **Software Development Intern** — Northbrook, IL
  Intelligent Medical Objects Co. — *May 2018 to June 2018*
  - **Built an APP to query IMO terminologies**: Built an web APP with both front end and back end features to query medical terminologies. Learned Agile development and deployment process in a industry standard.

Other Projects

- **Mail Assistance**
  A Web App with sentence completion suggestions, politeness checking and grammar checking. — *December 2018*
  - **Sentence Completion**: Built a top-k suggestion system to complete the sentence with N-Gram model.
  - **Politeness Checking and Grammar Checking**: Adopted Stanford's model on sentence politeness.

- **Neuro-tracker VR**
  A game to enhance cognitive functions for research purposes. Supervised by neuroscience department — *December 2017*
  - **VR scenes**: Built and optimized the game under Virtual Reality scenes based on 2D Neuro-tracker.
  - **Game mechanism**: Implemented game mechanism and logic for researchers to train and track performance.

Programming Skills

- **Fluent**: Python, C++, C, LaTeX, Git, Subversion
- **Beginner**: Java, R, C#, JavaScript, HTML, Ocaml, Verilog HDL, ReactJS, Tensorflow, Caffe