

# Yulun Yao

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## EDUCATION

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

## SELECTED COURSEWORK

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

## EXPERIENCE

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- **Undergraduate Research Assistant** Seattle, WA  
*Work in Prof.Luis Ceze's Group on Machine Learning System* June 2019 to present
  - **Building Machine Learning System - TVM**: Work in SAMPL lab to extend features of TVM and TVA.
- **Undergraduate Research Assistant** Champaign, IL  
*Work in Prof.Christopher W. Fletcher's Group on Architecture & ML* December 2017 to present
  - **Video Pre-processing and Network Analysis**: 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.
  - **Software Analysis for SDH Project**: Profiled and analyzed performance bottlenecks of software on CPU and GPU for DARPA-SDH Project. Experienced basic CUDA and several profiling tools.
  - **Network Quantization**: 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.

## PROJECTS

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- **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.

## PUBLICATIONS

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- **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

## PROGRAMMING SKILLS

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

## AWARDS

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