

# Po-Shao Chen

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## EDUCATION

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<b>Doctor of Philosophy in Electrical and Computer Engineering</b> <i>University of Michigan</i>	Sep. 2022 – Present <i>Ann Arbor, Michigan</i>
<b>Master of Science in Electronics Engineering</b> <i>National Taiwan University</i> <ul style="list-style-type: none"><li>Thesis: An Energy-Efficient Accelerator IC for Dark Channel Prior Based Blind Image Deblurring</li></ul>	Sep. 2018 – Feb. 2021 <i>Taipei, Taiwan</i>
<b>Bachelor of Science in Electrical Engineering</b> <i>National Taiwan University</i>	Sep. 2014 – June 2018 <i>Taipei, Taiwan</i>

## JOURNAL PAPER

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P.-S. Chen, Y.-L. Chen, Y.-C. Lee, Z.-S. Fu, C.-H. Yang, “A 28.8mW Accelerator IC for Dark Channel Prior Based Blind Image Deblurring,” *IEEE Journal Solid-State Circuits (JSSC)*, accepted.

## CONFERENCE PAPERS

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L.-H. Lin, Z.-S. Fu, P.-S. Chen, B.-Y. Yang, and C.-H. Yang, “A 4.8mW, 800Mbps Hybrid Crypto SoC for Post-Quantum Secure Neural Interfacing,” *Int. Symposium on VLSI Circuits (VLSI Circuits)*, June 2023

P.-S. Chen, Y.-L. Chen, Y.-C. Lee, Z.-S. Fu, and C.-H. Yang, “A 28.8mW Accelerator IC for Dark Channel Prior Based Blind Image Deblurring,” *IEEE Asian Solid-State Circuits Conference (A-SSCC)*, Nov. 2021.

## HONORS & AWARDS

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<b>Master’s Thesis Award</b> , IEEE Taipei Section	June 2022
<b>Bronze Medal Award</b> , Macronix Golden Silicon Award	Aug. 2021

## RESEARCH & WORK EXPERIENCE

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<b>Graduate Student Research Assistant</b> <i>VLSI-SP Group, University of Michigan</i>	Aug. 2022 – Present <i>Ann Arbor, Michigan, USA</i>
<b>Research Assistant</b> <i>Digital Circuits and Systems Lab, National Taiwan University</i> <ul style="list-style-type: none"><li>Delivered the oral presentation for blind image deblurring accelerator IC in <i>A-SSCC</i> 2021</li></ul>	Aug. 2021 – July. 2022 <i>Taipei, Taiwan</i>
<b>Mandatory Military Service</b> <i>R.O.C. Army</i> <ul style="list-style-type: none"><li>Received rifleman’s and tank ammunition loader’s training</li></ul>	Apr. 2021 – July 2021 <i>Taiwan</i>
<b>Graduate Student Researcher</b> <i>Digital Circuits and Systems Lab, National Taiwan University</i> <ul style="list-style-type: none"><li>Designed blind image deblurring accelerator IC with <b>complete cell-based ASIC design flow</b></li><li>Applied the deblurring accelerator to Intel FPGA board for surgical image deblurring</li><li>Implemented the algorithm for efficiently analyzing current signals from the sensor measuring the alcohol in gaseous state to determine the concentration</li></ul>	July 2018 – Mar. 2021 <i>Taipei, Taiwan</i>
<b>Undergraduate Student Researcher</b> <i>Digital Circuits and Systems Lab, National Taiwan University</i> <ul style="list-style-type: none"><li>Analyzed blind image deblurring algorithms</li></ul>	Mar. 2018 – June 2018 <i>Taipei, Taiwan</i>

## Electrical Engineering Intern

HP

July 2017 – July 2018

Taipei, Taiwan

- Designed compact WLAN antenna for the narrower bezel laptop
- Applied Visual Basic for Application (VBA) in Excel to collect the WLAN antenna field trials' data and generate charts automatically
- Participated in the live stream for introducing the internship program

## SELECTED PROJECTS

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### Blind Image Deblurring Accelerator IC

Sep. 2018 – Feb. 2021

- Implemented the chip having 2562x acceleration in full-HD image deblurring compared to Intel i7-4790
- Achieved 4x higher normalized area efficiency and 7.5x higher normalized energy efficiency than the prior design
- Used less area than the state-of-the-art design despite supporting 4x larger image size and better capability of image deblurring

### Gas Concentration Analysis

Sep. 2018 – Dec. 2020

- Designed digital filters for raw signals from gas sensor with MATLAB
- Analyzed signals' patterns and constructed ideal signals to aid detection
- Reduced the run-time by 50% for gas concentration detection with remained accuracy

### Stereo Matching

Sep. 2018 – Dec. 2020

- Explored and implemented different algorithms to have the feasible stereo matching performance
- Modified algorithms with various pre-processing and post-processing methods to enhance stereo matching results

### Webcam Controlled by Electrooculography (EOG) Signal

Nov. 2016 – Jan. 2017

- Implemented the multi-stage filter circuit for EOG signals filtering
- Applied EOG signals to control the movement of the webcam and displayed the live stream video from the webcam on the screen with Arduino board

## SKILLS

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**Programming Language:** Verilog, SystemVerilog, MATLAB, Python, C/C++, Latex

**Hardware Design Tools:** NC-verilog, Verdi/nWave, Design Compiler, Innovus, Calibre, Altera Quartus, Virtuosio