Daoming Dong | Curriculum Vitae

Department of Engineering, University of Cambridge

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Education

- **University of Cambridge** — **Cambridge, UK**
  PhD in Engineering — *2018–present*
- **Imperial College London** — **London, UK**
  MSc Advanced Materials Science and Engineering , First class (75) — *2016–2017*
- **University of Liverpool** — **Liverpool, UK**
  BEng (Hons) Electronics, First class with honours (75) — *2014–2016*
- **Xi'an Jiaotong Liverpool University** — **Suzhou, China**
  BEng (Hons) Electronics Science and Engineering, Top 1 (73) on progression to UoL — *2012–2014*

Work Experience

Research Consultant — **Cambridge, UK**
VividQ Ltd. — *05/2018–05/2019*
- Hardware and firmware design. Paid part time.

Research Assistant — **Suzhou, China**
Department of Electrical Engineering, Xi'an Jiaotong University — *06/2014–08/2014*
- Supervisor: Dr. Derek Gray
- Power electronics circuit design and simulation via NI Multisim. Paid full time.

Project Portfolio

Hardware implementations of 3D computer generated holography — **University of Cambridge**
PhD Project — *01/2018–Present*
- Supervisor: Prof. Timothy D. Wilkinson
- **Focus**: Investigate and implement the acceleration of CGH generation algorithm using low-level hardware.
- PCB design, FPGA design, Matlab simulation and optical system set up.

Investigate the C-T relationship of thin film BCZT material — **Imperial College London**
MSc Project — *12/2016–09/2017*
- Supervisor: Dr. Peter K. Petrov
- **Focus**: dielectric thin film device fabrication and characterization
- Full clean room fabrication experience including sample preparation, spin coating, photolithography, pulse laser deposition (PLD), evaporation and reactive ion etching.
- Thin film devices characterization: surface analysis with Dektak profilometer, scanning electron microscopy (SEM), atomic force microscopy (AFM), x-ray diffraction (XRD) and probe station with semiconductor analyzer; electrical property investigation by the use of probe station with semiconductor analyzer.

Transparent electronics - thin film transistors — **University of Liverpool**
BEng Project — *09/2015–06/2016*
- Supervisor: Prof. Steve Hall
- **Focus**: Investigate the current transport of novel oxide semiconductor thin film transistor for transparent thin film electronics.
- Clean room fabrication and measurement experience, MatLab modeling.

Additional Skills and Achievements

Subject Related

- **Scientific computing and modeling:** Proficient in Matlab and Python with data analysis packages.
- **Printed circuit board design:** Proficient in Altium designer. Know well Eagle. Experience in design high

speed PCB with differential signaling and FPGA.
- **Field programmable gate array design:** Proficient in Intel Quartus Prime design suite and Lattice iCEcube2 design suite. Know well in Xilinx Vivado and ISE design suite. Experience in using Intel Stratix 10 SoC FPGA platform.
- **Hardware description language:** Proficient in Verilog. Know well in SystemVerilog and VHDL. Experience in coding communication protocols including UART, SPI and I^2C.
- **Holographic projection system set up:** Experience in setting up a holographic projection system with Throlab equipment
- **Instruction set architecture:** Basic in ARM 7 and RISC V.
- **Operating systems:** Proficient in MacOS and Linux (Ubuntu, CentOS, etc.).

IT Skills

- **Web development:** Know well in HTML, CSS, Javascript and ruby, basic in ruby on rails framework and MongoDB database.
- **Adobe Family:** Proficient in Lightroom and Photoshop. Know well in Illustrator and After Effect.
- **Photography:** Proficient in portrait and landscape photography and post-editing.
- **Others:** *nix command line, Git, LaTeX.

Languages

- **Chinese:** Native
- **Cantonese:** Conversational
- **English:** Fluent

Achievements

- **Biomaker award** — **Cambridge, UK**
  University of Cambridge, EPSRC — *May, 2019*
- **CAPE Acorn award** — **Cambridge, UK**
  University of Cambridge, Department of Engineering — *April, 2019*
- **Rails with Active Record and Action Pack** — **Online**
  John Hopkins University on Coursera — *August, 2016*
- **HTML, CSS, and Javascript for Web Developers** — **Online**
  John Hopkins University on Coursera — *August, 2016*
- **Ruby on Rails: An Introduction** — **Online**
  John Hopkins University on Coursera — *July, 2016*
- **50% reduction in tuition fees of University of Liverpool (top 5%)** — **Liverpool, UK**
  University of Liverpool — *June, 2014*
- **Certificate of successful summit bid of Mt.Kilimanjaro in Africa (5895m)** — **Arusha, Tanzania**
  Mount Kilimanjaro National Park — *July 31st, 2013*
- **AIESEC volunteer at Library Project** — **Dar es Salaam, Tanzania**
  University of Dar es Salaam — *June – August, 2013*
- **AIESEC volunteer at at Project Umeed at AIESEC Delhi IIT** — **Delhi, India**
  Delhi IIT — *January – Febuary, 2013*

Publication Lists

[1] Fixed-Point Accuracy analysis of 2D FFT for the creation of computer generated hologram
Daoming Dong, Youchao Wang, Peter Christopher, Andrew Kadis and Timothy Wilkinson. *In Submission*, 2019.
[2] Hardware Implementations On Computer Generated Holography: A Review
Youchao Wang, **Daoming Dong**, Peter Christopher, Andrew Kadis, Ralf Mouthaan, Fan Yang and Timothy Wilkinson. *In Submission*, 2019.
[3] Improving Holographic Search Algorithms using Sorted Pixel Selection
Peter Christopher, Jamie Lake, **Daoming Dong**, Hannah Joyce and Timothy Wilkinson. *In submission*, 2019