QIN HONGDONG

(+86)13603087140 ◇ hongdongdonald@gmail.com

PROFILE

PhD in electrical and electronic engineering and senior engineer on technical standardisation. Focusing on video coding development, patents investigations and standardisation practices.

EDUCATION

The University of Hong Kong Sep 2013 – Jun 2020
Doctor of Philosophy
Thesis title: *Novel Techniques for Depth Map Compression*

National University of Singapore Aug 2008 – Dec 2008
Exchange Student, Electrical and Computer Engineering

The Hong Kong Polytechnic University Sep 2006 – Aug 2011
Bachelor of Engineering in Electronic and Information Engineering, 1st Class Honours, includes 12-month industrial training

WORK EXPERIENCE

TCL Industries Jan 2023 – Now
Senior Engineer, Technical Standardisation at Eagle Lab *Shenzhen*

- Perform technical pre-research on audio/video coding technologies and analyse relevant patents
- Develop new video compression techniques for patent applications and standardisation

Shenzhen University Oct 2020 – Dec 2022
Post-doctoral Researcher at School of Biomedical Engineering *Shenzhen*

- Worked on electroencephalography (EEG) related cognitive neuroscience investigations
- Worked on project: localisation of intracranial EEG electrode contacts in CT scans

The University of Hong Kong Jul 2016 – Jun 2019
Research Assistant at Department of Electrical and Electronic Engineering *Hong Kong*

- Worked on 3D video coding
- Our depth map codec outperformed 3D-HEVC at that era

Marvel Digital Limited Aug 2015 – Dec 2017
Consultant *Hong Kong*

- Developed 3D video coding methods and deal with intellectual property paperworks

The University of Hong Kong Aug 2011 – Aug 2015
Research Assistant at Department of Electrical and Electronic Engineering *Hong Kong*

- Worked in collaboration with Audio Video coding Standard workgroup (AVS) of China
- Focused on video codec design and acceleration, 3D video content generation
- Achieved real-time AVS video encoding and decoding in ARM+DSP low power platform
- Developed a semi-automatic image segmentation tool

Solomon Systech Limited Jun 2009 – May 2010
Engineering Trainee at Design Engineering Department *Hong Kong*

- Worked on image compression and coding algorithms for mobile device display system
- Designed specifications and develop supporting softwares for new microcontroller product

PROJECTS

Intracranial Video-electroencephalography Apr 2022 – Oct 2022

- Localise EEG electrode contacts from CT scans for pre-surgical planning
- Primarily achieved localisation and automatic grouping

Auxiliary Video Data Compression and View Synthesis System May 2015 – Nov 2018

- Designed compression algorithms for depth images and videos
- Presented a compression performance on par with 3D-HEVC or better without referring to texture images
- Developed a GPU-accelerated software for 1080p real-time decoding

3D Video Content Generation and Processing System May 2013 – Aug 2015

- Developed image segmentation algorithms
- Developed a semi-automatic image segmentation and data management tool for our collaboration partner

Real-time AVS-1 Video Codec on ARM+DSP Platform Aug 2011 – May 2013

- Ported AVS video codec onto mobile-class ARM+DSP platform
- Reached real-time 720p encoding and decoding with computation workload management and asynchronous processing

TECHNICAL STRENGTHS

Natural Languages	Mandarin (native), Cantonese (native), English (fluent)
Computer Languages	C/C++, MatLab, Python
Tools	Visual Studio, VSCode, Eclipse, Anaconda platform