PEDRAM MOHAMMADI

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PROFESSIONAL SUMMARY

- Expert knowledge and understanding in the areas of:
  - Subjective and objective image/video quality assessment, High Dynamic Range (HDR) video processing, Computation photography, Statistical analysis, Image segmentation, Tone mapping and Inverse tone mapping algorithms, Perceptual transfer functions, Human Visual System (HVS), Color processing and gamuts, Convex optimization, Video encoding techniques, Video rate control algorithms
- Advanced programming skills using Python and MATLAB. Basic understanding of C programming.
- Familiar with FFMPEG, Linux, Git, Davinci Resolve, Elecard StreamEye

EDUCATION

Ph.D. in Electrical and Computer Engineering *2015 - 2020*
University of British Columbia, Canada

- Thesis: Inverse tone mapping of SDR content for HDR applications
- Awards: Full graduate scholarship, International Tuition Award

M.A.Sc. in Electrical Engineering *2012 - 2014*
Ferdowsi University of Mashhad, Iran

- Thesis: Subjective and Objective Image and Video Quality Assessment

PROFESSIONAL EXPERIENCE

Senior Video Quality Engineer *2021 - Present*
NETINT Technologies Inc., Canada

- Continuously defining the road-map and setting expectations for visual quality improvements for NETINT's next-generation products.
- Designed and developed a patent-pending visual quality enhancement algorithms for NETINT's next-generation VPU, resulting in 15% increase in objective video quality while saving bit-rate.
- Designed and developed patented video rate control algorithms for NETINT's next generation VPUs resulting in 10% increase in objective video quality while saving bitrate.
- Implemented various video post-processing algorithms to increase VMAF quality score of NETINT's next generation VPUs.
- Designed and developed a patented SDR/HDR conversion algorithms for NETINT's next-generation VPU.
- Conducted extensive fine tuning experiments for various company products resulting in an average of 5% increase in objective video quality.
- Mentored junior engineers and co-op students, providing ongoing support to meet project goals.

Scientific Research and Experimental Development (SR&ED) Consultant *2020 - 2021*
KPMG LLP, Canada

- Successfully increased SR&ED tax credits for clients by an average of 20-30% annually, resulting in a total of 500K to 2 million dollars in additional credits and refunds over 1.5 years.
- Improved client cash flow by facilitating the timely receipt of SR&ED refunds, contributing to a 10-15% increase in reinvestment funds for R&D activities.
- Achieved a 25-50% reduction in audit occurrences by ensuring meticulous compliance with Canada Revenue Agency's guidelines, resulting in 50K-100K dollars savings in potential audit-related costs.

Research Scientist *2015 - 2020*
The University of British Columbia, Canada

- Designed and patented an SDR-to-HDR conversion algorithm, enhancing subjective visual quality by an average of 80%.
- Devised an image segmentation algorithm based on entropy theory capable of dividing a frame to various brightness regions.
- Developed a color adjustment algorithm, improving color accuracy by and average of 70%.
- Designed a flickering reduction algorithm for visual stability.
- Authored multiple research papers in prestigious IEEE journals, and conferences.

Application Developer I *2018 - 2019*
TELUS Communications Inc., Canada

- Led a team to implement an SDR to HDR conversion system, achieving real-time performance for 1080p content.
- Developed high-quality code, enhancing product performance and user experience.

PATENTS

- **P. Mohammadi**, J. Li, E. Andrade Neto, and J. Lou "Methods and Apparatus for video rate control," Patent filed, filing date: January 2024.
- **P. Mohammadi**, E. Andrade Neto, and J. Lou "Image processing methods, devices, electronic devices and storage media," China Patent Office, Application No. CN116167950B, Publication date: April 2023.
- P. Nasiopoulos, S. Ploumis, M. T. Pourazad, R. Boitar, and **P. Mohammadi**, "Methods and Apparatuses for Tone Mapping and Inverse Tone Mapping," U.S. Patent, Application No. US11100888B2, Publication date: January 2019.

PUBLICATIONS

For a complete list of my publications please visit: My Google scholar page

WORK AUTHORIZATION

Currently holding a Canadian citizenship