

# TREVINE SHANE JUDE OORLOFF

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## EDUCATION

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**Ph.D. in Electrical and Computer Engineering** *Fall 2019 - Present*  
*University of Maryland - College Park, MD*

- GPA: 3.91/4.0

**B.Sc. in Electrical and Electronic Engineering (First Class Honors)** *2014 - 2017*  
*University of Peradeniya, Sri Lanka*

- GPA: 3.9/4.0
- Ranked 3<sup>rd</sup> in the Department of Electrical and Electronic Engineering

**Advanced Diploma in Management Accounting** *2012 - 2015*  
*Chartered Institute of Management Accountants (CIMA), UK*

- CIMA Exams Qualified

## RESEARCH PUBLICATIONS

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- **AVFF: Audio - Visual Feature Fusion for Video Deepfake Detection.** *In IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) (2024) (Patent Pending)*
- **Robust One-Shot Face Video Re-enactment using Hybrid Latent Spaces of StyleGAN2.** *In IEEE/CVF International Conference on Computer Vision (ICCV) (2023): (Project Page)*
- **Expressive Talking Head Video Encoding in StyleGAN2 Latent-Space.** *In ICCVW: AI for Creative Video Editing and Understanding (2023) (Oral) (Best Paper Award): (Project Page)*
- **Comparison of Two Algorithms for Land Cover Mapping Based on Hyperspectral Imagery.** *In International Journal on Advances in ICT for Emerging Regions, 11:1, (2018)*
- **Hyperspectral Imaging Based Land Cover Mapping Using Data Obtained by the Hyperion Sensor.** *In Intl. Conference on Advances in ICT for Emerging Regions, (2017) (Best Paper Award)*
- **Spectral-Spatial Hybrid Mechanism for Feature Detection Using Spectral Correlation.** *In IEEE International Conference on Industrial and Information Systems (ICIIS), (2017)*
- **Land Cover Classification and Sub Component Analysis Using Hyperspectral Imagery.** *In IESL Transactions, Technical Papers, The Institute of Engineers, Sri Lanka, (2017)*
- **Geographical Feature Extraction Using Hyperspectral Images Obtained by the Hyperion Sensor.** *In International Symposium on Industrial Systems (INSYS), (2017)*

## WORKING EXPERIENCE

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**Computer Vision Research Intern** *Feb 2024 - Present*  
*Apple, Seattle, USA*

**Research Scientist Intern (Vision/Audio)** *May 2023 - Aug 2023*  
*Reality Defender Inc., New York, USA*

- Proposed an efficient audio-visual representation learning framework, yielding state-of-the-art performance on video deepfake detection (**Patent Pending**).

## Applications Engineer

Nov. 2017 - Jul. 2019

Synopsys Inc., Sri Lanka

- Functioned as the **Technical Lead** of the ZeBu Product Validation team
- Gained experience in validating and emulation based debugging using EDA tools such as ZeBu, VCS, Verdi, DC, SpyGlass, zFmCheck, and PTPX

## HONORS AND AWARDS

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- **2023: Best Paper Award** at the CVEU2023 Workshop at ICCV'23, for the paper, *Expressive Talking Head Video Encoding in StyleGAN2 Latent-Space*
- **2019:** Received two **Above and Beyond Awards** at Synopsys Inc., Sri Lanka for the contributions in validation of ZeBu Power Estimation and ZeBu Front-End projects
- **2017: Best Paper Award** at the International Conference of Advances in ICT for Emerging Regions, for the paper, *Hyperspectral Imaging Based Land Cover Mapping Using Data Obtained by the Hyperion Sensor*
- **2017/2018, 2016/2017: Nominee for the Eng. E.W. Karunarathne Award**, which is awarded for the Best Undergraduate Project in Electrical Engineering (Nation-wide), for the research project "Hyperspectral Image Analysis for Feature Detection"
- **2013: High Distinction Award** at the Sri Lankan Mathematical Olympiad 2013, organized by the Sri Lanka Olympiad Mathematics Foundation
- **2011: Bronze Medalist** at the Sri Lankan Physics Olympiad Competition - 2011, organized by the Institute of Physics, Sri Lanka
- **2010 & 2007: Best Student Award** at Trinity College, Kandy awarded for the best academic performance

## SERVICES

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- **Peer Reviewer** at ECCV 2024, CVPR 2024, and ICIAfS 2021
- **External Examiner** for final-year undergraduate project evaluations of the Sri Lanka Technological Campus (SLTC), Sri Lanka (2021,2022)

## COURSES

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- **Artificial Intelligence:** Advanced Techniques in Visual Learning and Recognition, Algorithms in Machine Learning: Guarantees and Analyses, Statistical Pattern Recognition, Learning and Statistical Signal Processing
- **Signal Processing:** Random Processes in Communication and Control, Advanced Digital Signal Processing, Advanced Numerical Optimization, Information Theory
- **Other:** Compilers and Optimization

## SKILLS

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- **Languages:** Python, C, MATLAB, Verilog, System Verilog
- **Frameworks:** PyTorch, Tensorflow
- **Experience & Interests:** Computer Vision, Machine Learning, Signal Processing