

CV for Fraser Montandon

CONTACT INFORMATION	Digital Image Processing Laboratory University of Cape Town fraser.montandon@gmail.com www.frasermontandon.com		
DEMOGRAPHICS	Gender: Male	Nationality: Swiss and South African	
EDUCATION	<div>University of Cape Town (UCT)</div> <div>M.Sc. Electrical Engineering by Dissertation (with Distinction)2022 - 2024</div> <div>My research involves computer vision, digital holography, optoelectronics, polarisation microscopy, and machine learning to provide insight into detecting and classifying microplastics within a fluid stream and in ocean environments. Dissertation title: “Imaging-based lensless polarisation-sensitive fluid stream analyser for automated, label-free, and cost-effective microplastic classification”</div> <div><ul style="list-style-type: none">Member of the Digital Image Processing Research GroupMember of the Marine Robotics Research Group</div> <div>University of Cape Town (UCT)</div> <div>B.Sc. Engineering - Electrical and Computer Engineering (with Honours II)2018 - 2021</div> <div><ul style="list-style-type: none">Subjects: High Performance Embedded Systems, DSP, RF and Microwave Devices, Communication and Control EngineeringGraduated with HonoursFourth year research project: “Lock-in amplifier for sensitive measurement of optical intensity”</div> <div>University of South Africa (UNISA)</div> <div>B.Com. Financial Management2017</div>		
ACADEMIC APPOINTMENTS / TEACHING EXPERIENCE	<div>University of Cape Town (UCT)</div> <div>Lecturer</div> <div><ul style="list-style-type: none">EEE3090F - Electronic Devices and Circuits2024</div> <div>Teaching Assistant</div> <div><ul style="list-style-type: none">EEE3089F - Electromagnetic Engineering2023EEE4122C - Communication Engineering2022</div> <div>Course Tutor</div> <div><ul style="list-style-type: none">EEE3097S - Engineering Design: Electrical and Computer Engineering2021</div>		
WORK EXPERIENCE	<div>Direct Data Digital CC</div> <div>Founder and Owner2005 - Present</div> <div><ul style="list-style-type: none">Develop and provide automotive electronic diagnostic equipment and electronic control unit services in Southern Africa</div>		
ELECTRONICS SPECIFIC SKILLS	<ul style="list-style-type: none">Expert computer vision and digital image processing with a focus on in-line holography, lensless imaging, polarimetry, and microscopyDesign of custom machine learning implementations including traditional and deep learning architecturesStrong optoelectronics competency including design and implementation of solutions		

- Expert knowledge and application of electrical components, including: analogue devices, semiconductors, and digital electronics
- Expert knowledge and application of several electrical communication topologies, including: SPI, I²C, CAN, LIN, and Ethernet
- Strong coding and software development skills
- Design and implementation of microcontroller-based embedded systems and electrical circuitry including PCB design
- Software coding and calibration for automobile control modules
- Fault-finding on automobile electronic control units

SOFTWARE KNOWLEDGE

- Computer languages: C, C++, Java, Python, Julia, ARM assembly
- Software competencies: Matlab, KiCad, Autodesk Fusion 360, Feko, SQL, LaTeX, Office - Word, Access, PowerPoint, Excel

AWARDS

- Vice-Chancellor's Research Scholarship 2023
 - Marine Robotics Electrical Engineering PG Scholarship 2022 - 2023
 - Masters Research Scholarship 2023
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