JOSH VAN 'T SANT

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PROFESSIONAL PROFILE

Highly motivated technology R&D engineer with 2 years of experience in simulation-driven design, technical communication, and multidisciplinary project coordination. Specialised in compliant mechanism design and prototyping with hands-on expertise in Python, FEA, and CAD. Demonstrated success in leading feasibility studies and early-phase prototype development through my thesis work and internship project. Skilled in technical communication and science outreach across varying skill levels. Passionate to further research and develop innovative technologies across the field of soft robotics.

EDUCATION

Delft University of Technology **Delft, NL**
Master of Science with Honours - Specialisation: BioMechanical Design *2022-2024*

University of Canterbury **Christchurch, NZ**
Bachelor of Engineering with Honours - Specialisation: Mechatronics Engineering *2014-2017*

RESEARCH EXPERIENCE

Precision and Microsystems Engineering, Delft University of Technology **Delft, NL**
Graduate Thesis Project in Collaboration with Flexous *2023-2024*

Research advisor: Prof.dr.ir. Just Herder

- Thesis: *The design of a compliant horizontal clutch and braking system for chronographs*
- Focus areas: Compliant mechanisms, computational optimisation, iterative prototyping

Honours Programme **Delft, NL**

- Project title: *An exploration of the mechanical design process* *2023-2024*
- Focus areas: Mechanical design, research into design methodologies, artificial intelligence

Alta Scuola Politecnica, Politecnico di Milano **Bardonecchia, IT**
Interdisciplinary Winter School Participant *2024*

- Collaborated with various technical universities to design a multidisciplinary shared innovation spaces

Joint Interdisciplinary Project, Delft University of Technology **Delft, NL**
Interdisciplinary Internship Project in Collaboration with Layco Medical Devices *2023*

- Assessed feasibility of a sustainable medical device for developing countries through interdisciplinary collaboration with TU Delft students and Layco
- Conducted fieldwork in Uganda to evaluate local context and identify future partners

PROFESSIONAL EXPERIENCE

Brevity **Christchurch, NZ**
Mechanical Design Consultant *2018-2020*

- Designed and simulated mechanical components and mechanisms to secure non-structural building elements using methods such as finite element analysis
- Managed cross-disciplinary projects from concept to site execution including designing, coordination, and construction monitoring in commercial developments
- Delivered detailed technical documentation with regulatory compliance in collaboration with fire engineers, structural engineers and architects
- Responded to technical queries, translating complex design concepts into accessible information for a variety of technical and non technical disciplines.

TECHNICAL COMPETENCIES

Programming languages:	MATLAB, Latex, APDL, Python, Excel, C++* (**limited*)
Hardware & Embedded:	Sensor integration, Arduino, Altium* and I2C integration* (**limited*)
Other software:	SOLIDWORKS, ANSYS, Axis VM, Powerpoint, G-Suite, Power BI
Communication:	Advanced Diploma in Public Speaking (Adv ASB), Toastmasters
Technical:	Soldering, Welding, Additive Manufacturing, Laser Cutting

AWARDS

- **Runner Up of 4TU Creathon 'Energizing the Future' -** Awarded runner up startup pitch for presentation on "Battalyser" *2024*
- **University of Canterbury, Certificate of Merit -** Awarded for outstanding performance *2016*
- **Golden Key Candidate -** Awarded for first year performance *2014*

TEACHING EXPERIENCE

Delft University of Technology **Delft, NL**

Teaching Assistant: Spierskeletsysteem en Biomechanica (Musculoskeletal System and Biomechanics), Neuromechanics & Motor Control, and Musculoskeletal Modelling *2023-2024*

- Led weekly exercise sessions presenting and solving problem sheets
- Assessed graded homework exercises
- Developed custom modelling exercises

University of Canterbury/Brevity **Christchurch, NZ**

Company Supervisor for Final Year Project *2019*

- Tom Goodman, Luke Doyle, Irfan McQuilan, Oli Knopp, Jintao Wen, Danny Humm, and Gerard Evans (2019), "Automation of Interior Fit-Out Design"

OUTREACH ACTIVITIES

- Organised and participated in a study tour for master students in Mechanical Engineering at TU Delft to help promote the master programme and provide networking opportunities with multiple universities and companies in Stockholm, SE and Berlin, DE in the summer of 2023
- Organised and coordinated multiple engineering events in Hawke's Bay, NZ for Engineering New Zealand as part of the Young Engineers committee from 2020 to 2022
- Presented STEM demonstrations at various middle schools in Canterbury, NZ to engage with students as part of the Wonder Project Outreach from 2018 to 2019