

Taliya Weinstein

Curiosity-driven biomedical and electrical engineer with a track record of solving complex problems to a high standard. Pursuing inventive, interdisciplinary solutions for impactful change within the world while advancing the engineering field.

SKILLS

Technical Tools	Python (PyTorch, Tensorflow, matplotlib, scikit-learn, pandas), MATLAB, SQL, Git, LaTeX, C++
Quantitative Research	Mathematical modelling, engineering design, data analytics
Communication	Technical writing, data visualization, public speaking, presentation

EDUCATION

Imperial College London, London, United Kingdom 2022-2023

Master of Research in Bioengineering

Thesis: Embroidered Electronic Interfacing for Health Monitoring (Advisor: Dr Firat Güder)

Finished as the top student (cohort 20), achieving a weighted average of 84.11%.

University of the Witwatersrand, Johannesburg, South Africa

Bachelor of Engineering in Information and Electrical Engineering

2020-2021

Thesis: The Impact of Acoustic Features on the Persuasiveness of COVID-19 Lifestyle Speeches: Spectral and Cepstral Features (Advisor: Prof Vered Aharonson)

Ranked in the top 3 students (cohort 100) with a cumulative weighted average of 91.27%

Bachelor of Engineering Science in Biomedical Engineering

2016-2018

Thesis: The Design and Implementation of a Low-Cost Hearing Aid (Advisor: Prof David Rubin)

Finished as the top student (cohort 20) with a cumulative weighted average of 88.8%.

WORK EXPERIENCE

Think3dots Consulting, Johannesburg, South Africa | Solution Engineer Feb 2022 — Sep 2022

- Led the **rebasin**, **data engineering**, and **statistical analysis** of a model to predict the number of doctors needed at different clinics for a large multiregional medical consult intermediary in South Africa.
- Developed a high-level **systems overview and backend design** of a hospital blood tests software platform with outputs used in the creation of a pitch deck for investors.
- Researched current **AI in healthcare innovations** and constructed the outline of the Investec Talk Series given by Dr Adam Pantanowitz entitled *Medicine In Conversation: A[I] Healthcare Revolution*.

Aerobotics, Cape Town, South Africa | Student Intern

Jan 2021 — Feb 2021

- Researched the incorporation of **computer vision** into drones for autonomous descent. This project made use of **OpenCV**, **image processing techniques**, and **Python analytics** to accompany my project feasibility assessment.

Sydney Brenner Institute for Molecular Bioscience, Johannesburg, South Africa | Student Intern

Jun 2018

- Data quality checking** for the H3Africa AWI-GEN study. My preliminary data checking went on to contribute to the Nature publication, 'Autozygosity Influences Cardiometabolic Disease- Associated Traits in the AWI-GEN Sub-Saharan African Study.'

OUTREACH & LEADERSHIP

SisonkeBiotik, Remote, South Africa | Member

Feb 2024 — Present

- Active writer, paper reviewer and resource linker for ongoing machine learning conferences.

Imperial College London, London, United Kingdom | Onboarding liaison and mentor

Oct 2023 — Present

- Inducted new master's students into the Güder Lab and assisted students **refine their research questions**, reviewing reports, and teaching fundamental lab principles.
- Meet weekly with mentees to provide progress guidance and discuss problems.

1MillionGirlsInSTEM Ambassador, Johannesburg, South Africa | Mentor, Volunteer, Organiser

Feb 2022 — Sep 2023

- Mentored girls from underprivileged backgrounds by answering questions, providing advice, and linking girls with STEM-based educational resources and contacts.

- **Organised and led a biomedical engineering-based workshop** for 30 girls which entailed finding sponsorship, developing biomedical workshop content, liaising with additional volunteers, and preparing my presentation material.
- Active participant in WomEng's digital campaign of sending through video content and online material of my engineering experiences.

WindAid Institute, Trujillo, Peru | Volunteer

Jan 2017 – Feb 2017

- Co-led the **development of an anemometer system** for wind turbine surveillance utilizing a microcontroller.
- Collaborated with other volunteers to build, install, and repair wind turbines for the Peruvian fishing village of Playa Blanca

SUMMER SCHOOLS & PERSONAL DEVELOPMENT

McKinsey University Scholar, Remote, South Africa

Sep 2021 – Dec 2021

Strategies for **effective communication, quantitative analysis, and project management skills**

IBRO-Simons Computational Neuroscience Imbizo, Muizenberg, South Africa

Jan 2020

Theoretical and practical concepts in cellular neuroscience, **machine learning, decision-making, and reinforcement learning**

IBM Quantum Computing Summer School, University of the Witwatersrand, South Africa

Dec 2019

Theoretical and practical skills for coding on a quantum computer

Neve Yerushalayim, Jerusalem, Israel

Mar 2019 – Nov 2019

Gap year program for Jewish learning, personal development, **communication, leadership, and interpersonal relationships**

PUBLICATIONS & PRESENTATIONS

V. Aharonson, C. Karpasitis, **T. Weinstein**, and G. Koral, '[Netnography of Social Media Addresses on COVID-19](#)', *Eur. Conf. Soc. Media*, vol. 9, no. 1, Art. no. 1, Apr. 2022, doi: 10.34190/ecsm.9.1.299.

"The Impact of Acoustic Features on the Persuasiveness of COVID-19 Lifestyle Speeches: Spectral and Cepstral Features," *Wits EIE Women's Conference*, November 2021

AWARDS

Top Student in MRes for Bioengineering, Imperial College London

2023

Skye Foundation Scholarship, Skye Foundation

2022

Awarded to exceptional South Africans pursuing postgraduate degrees, nominated through their university faculty deans.

Isazi Consulting Prize, University of the Witwatersrand

2021

Awarded to the top 5 information engineering graduates awarded an average of above 70% in their final year.

Entelect Software Development Prize, University of the Witwatersrand

2020

Awarded to the second-best 3rd year of electrical engineering software development course.

Merit Certificate, University of the Witwatersrand

2020

Awarded to students within the top 2% of a course. Awarded cumulatively for the 3rd year of electrical engineering.

Colin G. Caro Award, University of the Witwatersrand

2018

Awarded to the top biomedical engineering student.

Dean's List, University of the Witwatersrand

2016 - 2018

Merit Certificate, University of the Witwatersrand

2018

Awarded in the subjects of Physiology and Medical Biochemistry I, Biomedical Measurements, Instrumentation and Imaging, Human Anatomy, and Biomedical Transport Phenomenon.

Merit Certificate, University of the Witwatersrand

2017

Awarded in the subjects of Physics II (Electrical), Biomedical Statistics and Numerical Methods, Electronics I, Electric and Magnetic Systems, Software Development I, Microprocessors, Molecular and Cell Biology, and Mathematics II

Merit Certificate, University of the Witwatersrand

2016

Awarded in Chemistry I, Introductory Life Sciences and Electric Circuits, Mathematics I (Engineering), Physics I, and Mechanics.

SA Breweries Award, University of the Witwatersrand

2016

Awarded to the top student in Introductory Life Sciences in the entire Science cohort.