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EU National

# Taliya Weinstein

taliya-weinstein
TaliWeinstein
https://taliweinstein.netlify.app

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

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|---|---|
| **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** (*Finished as the top student)*

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

**University of the Witwatersrand, Johannesburg, South Africa**

**Bachelor of Engineering in Information and Electrical Engineering** *( Ranked in the top 3 students)* *2020-2021*

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

**Bachelor of Engineering Science in Biomedical Engineering** ( *Finished as the top student)* *2016-2018*

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

## WORK EXPERIENCE

**Melio.AI, Johannesburg, South Africa|** Intermediate Data Scientist *Jan 2026 — present*

- Assisting in **data pipeline setup** and model building for **agentic workflows** for financial systems

**Güder Research Group, Imperial College London, United Kingdom|** Research Engineer *Jul 2024 — Nov 2025*

- Assisting in the experimental design and execution of sensor pipeline projects within the Güder Research Group. This has involved assisting with **lateral flow assay integration with electronics** and the **construction of an AI model to classify leaf samples as diseased** based on virus load sensed from electrochemical results and photographs of the leaf.

**NannyML, Belgium (Remote Position)|** Data Science Writer *May 2024 — Aug 2024*

- Wrote for the post-deployment data science blog detailing innovation within the NannyML open-source and cloud product library. This involves **generating models, running experiments and finding creative ways to communicate these results** in visual and written form.

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

- Led the **rebasing, 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 contributed to the 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*

- **Led the Data Science for Health in Africa workshops** at Deep Learning Indaba 2024–2025, **overseeing programming, partnerships, and team coordination**, achieving a 3.8× increase in attendance and 100% participant satisfaction.

- Moderated AI in Health panels, coordinated Lightning Talks and **ran the Google Ideathon**
- **Managed the seminar series** and **co-organised paper writing**, reviewing, and publication for the MICCAI 2024 proceedings and the HELINA conference 2025.

**Imperial College London, London, United Kingdom |** Onboarding liaison and mentor *Oct 2023 — Nov 2025*

- Inducted new master's students into the Güder Lab and assisted students **refine their research questions, reviewing reports, and teaching fundamental lab principles.**

**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.
- Participanted in WomEng's digital campaign, sending 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

**BlueDot Impact Biosecurity Fellowship** Jan 2026 – Feb 2026

**Sentient Futures AI x Animal Fellowship** Oct 2025 – Dec 2025

AI discussions for animal welfare across farmed, wild, and companion species (8-week program).

**Deep Learning Indaba, Kigali, Senegal** Aug 2025

Machine learning governance and low-resourced language approaches and **co-ran the Data Science for Health Workshop**

**African Computer Vision Summer School** July 2025

Competitive, 10-day program for African researchers and global experts in computer vision, deep learning, and ethical AI.

**Deep Learning Indaba, Dakar, Senegal** Sep 2024

**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

**Taliya Weinstein**, Xintong Li, Hasan Kurt, Selin Olenik, Alexander Silva-Pinto Collins, Jose Manuel Rodrigueiro Flauzino, Muhammed Adeel, Laura Gonzalez-Macia, Meral Yuce, Firat Guder (2025) Bioelectronic Wearable Sensors Produced by Computerized Embroidery using a Dual Thread Approach. bioRxiv

Jose M.R. Flauzino, Abdulkadir Sanli, Rudolph R. Shirima, Yuanjun Cai, Tinghao Hu, Leyang Li, **Taliya Weinstein**, Selin Olenik, Adulkadir Gumuscu, Laura Gonzalez-Macia, George Mahuku, James Legg, Anthony E.G. Cass, Firat Guder (2025). Electrochemical Lateral Flow Assay with Linked Analytics for Surveillance of Cassava Brown Streak Disease in East Africa. bioRxiv.

L. Ismaila, H.Turki, M. Frikha, **T. Weinstein**, F. Hunja, C. Fourie, and S. Adeshina, AfriBiobank: Empowering Africa's Medical Imaging Research and Practice Through Data Sharing and Governance. In: Anazodo, U., *et al.* Medical Information Computing. MImA EMERGE 2024 2024. Communications in Computer and Information Science, vol 2240. Springer, Cham. https://doi.org/10.1007/978-3-031-79103-1_20

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.

## AWARDS

**Ideathon Research Track Winner, Deep Learning Indaba** 2025

*Awarded to the top two research ideas with initial execution across African focusing on developing impactful machine learning projects. Project was by a panel of senior researchers and practitioners. Our project aimed to evaluate and reduce endangered species bias in global camera trap models to ensure better protection in African national game reserves.*

**Digital Health Winner at Crick Innovation Challenge, Francis Crick Institute** 2024

*Awarded by venture capital panel to team with best solution in the Digital Health stream after a week-long innovation programme where early-career scientists develop and pitch digitally enabled solutions to translate research into real-world clinical impact. Our solution encompassed a interstitial sensor to monitor hormones for endometriosis management.*

**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 for marks at distinction level in the following subjects: Physiology and Medical Biochemistry I, Biomedical Measurements, Instrumentation and Imaging, Human Anatomy, and Biomedical Transport Phenomenon.*

**Merit Certificate, University of the Witwatersrand** *2017*

*Awarded for marks at distinction level in the following subjects: 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 for marks at distinction level in the following subjects: 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.