Jeffrey **Post**

BIOMEDICAL ENGINEER · DATA SCIENTIST

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Profile

Biomedical engineer with 8 years of experience working on innovative cutting-edge biotechnology in international environments, both in clinical and research settings.
A data scientist at heart, I am especially skilled at analyzing complex data sets from various sources in order to create interactive visualizations, dashboards for day-to-day tracking, or formal reports to guide decision making.

Education

University of Florida — *Gainesville, FL - USA*
B.Sc. IN ELECTRICAL ENGINEERING — *Aug. 2006 - Aug. 2011*
- Bio-electrical Systems & Communications Systems

University of Geneva — *Geneva, Switzerland*
M.Sc. IN GLOBAL HEALTH — *Sep. 2018 - Sep. 2021*
- Epidemiology, Biostatistics & Digital Health

The Graduate Institute — *Geneva, Switzerland*
EXCHANGE SEMESTER - MASTER IN DEVELOPMENT STUDIES — *Aug. 2019 - Dec. 2019*
- Health Economics & Global Health Governance

Skills

Languages	• English, French
Development	• UNIX & Shell scripting, Git, RStudio, Renkulab, JupyterLab, Google Colab, Flask, WSGI, Docker
Programming	• Proficient: R, Python, STATA, SQL, MATLAB • Intermediate: C, VHDL, LaTeX, Markdown, JavaScript
Data Analysis	• Strong mathematics, statistics, and epidemiology background (Numpy, Scipy, Scikit-Learn, Tensorflow, Keras)) • Web scraping (Firefox with Selenium, Chrome with Puppeteer, or simpler Linux scripts when there is no JS) • Data wrangling, cleaning, and aggregation (Pandas, Awk, Grep, Sed, SQL, etc..) • Exploratory, Spatial, Time-series, Network-Graph analyses • Visualization and story-telling skills (Plotly Dash, Shiny, and currently learning D3.js)

Academic Research/Projects

Master's Thesis	Sociobehavioral characteristics and HIV epidemics - a longitudinal study of 29 sub-Saharan countries under supervision of Aziza Merzouki, PhD, and Olivia Keiser, PhD. Currently under review for publishing at the Journal of the International AIDS Society (Link to Thesis Presentation).
HIV modelling	Building a stochastic agent-based HIV compartmental model. Evaluation of fluctuations of transmission dynamics of early nascent epidemics and long term epidemics trends. Implementation of impact of ART coverage.
Epidemiology	Building a stochastic SEIR compartmental model with deconvolution of exposure time to estimate R_{eff}. Implications of exponential distribution (i.e. deterministic model) for latent and infectious periods and resultant peak number of infected.
COVID-19	Developed a very simple dashboard to track COVID-19 across the globe early on when the Johns Hopkins University started aggregating data. Added a second tracker specific to France for friends and family living here.
Malaria	One Health approach to design an early warning system for malaria in Kakuma Refugee Camp, Kenya. Community based run-off pit mapping with GPS enabled smartphones & anopheles larvae density measurements (scooping, identification, and quantification) for the control and prevention of malaria during the dry season.
Senior Design	Concept and design of a high-fidelity stereo wireless portable music system. Effects and equalizer implemented on transmitter board using TI Delfino DSP and lightweight receiver using TI MSP430 micro-controller.
Digital Design	VHDL design, simulation, and implementation of a general-purpose micro-controller on Altera Cyclone II FPGA.

Professional Experience

Nanolive SA.

Tolochenaz, Switzerland

Product Engineer

Jun. 2020 - Current

Nanolive is the first company to develop, in 2012, a microscope based on the principles of HoloTomography, an innovative way to zoom in and explore living cells in 3D without damaging them.

A very young company, my role as Product Engineer is wide – at its core, it is to be the bridge between R&D and other internal departments. In my short tenure here, I have:

- Helped develop an automatic log parser to enable faster troubleshooting
- Helped develop a dashboard, based on the above log parser, to visualize the main indicators that contribute to the microscope image quality
- Helped develop a dashboard to track machine usage globally (for market research)
- Collected data from devices and engineers in the field to guide serviceability of the device
- Trained Field Application Specialists (FAS) on the basic technology for them to demo potential customers
- Trained Distributor Service Engineers on the technology, installation, and maintenance tools

Accuray International SARL.

Morges, Switzerland

Technical Support Engineer EIMEA

Sep. 2012 - Sep. 2018

Accuray is a leading radiation therapy company and arguably the leader in Stereotactic Body Radiotherapy (SBRT) and Stereotactic Radiosurgery (SRS) with the CyberKnife system.

The Global Technical Support team is the hub for all technical questions internally and forms the link between R&D upstream, and the Field Service Engineers (FSEs) downstream. With knowledge and interest that spanned multiple domains, I was able to contribute in various areas such as patient data management, precise tracking of device health, and tracking device usage. More specifically, I :

- Helped implement robust data management practices (in accordance with HIPAA and GDPR guidelines)
- Helped implement patient data disaster recovery processes
- Trained FSEs and hospital staff on the above along with their integration in Oncology Information Systems
- Helped develop an automatic log parser to enable pro-active response of potential device failures
- Helped develop a dashboard to track machine downtime globally (for after-sales service)
- Helped develop a dashboard to track machine usage globally (for market research)

Hopital de La Tour

Geneva, Switzerland

Imaging Modalities Analyst - IT Helpdesk Associate

May. 2010 - Aug. 2010

Hôpital de la Tour is a private hospital and maternity center in Geneva.

Tasked with a feasibility study of implementing an open-source Picture Archiving and Communication System (PACS) as a backup to the (at the time) multiple fragmented proprietary ecosystems that came with each imaging modality. While the end solution was not implemented, my work contributed to:

- Integrate the different proprietary ecosystems into the main Hospital Information System (HIS)
- Integrate the different locations into the main HIS
- Harmonize workflows related to the imaging modalities