TZVI AVIV, Ph.D., MBA

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PROFILE

Director – Data Science and Engineering – Commercial Analytics
Health data science leader with 15 years of experience leading teams in delivering complex data products in science, healthcare, and insurance organizations. Crafted the development and implementation of a strategic health data R&D roadmap at Canada's largest pharmacy network. Before joining Loblaw, led open innovation machine learning projects that received international awards and publications in prestigious journals. Holds a Master of Business Administration (MBA) in Technology Innovation Management from Toronto Metropolitan University and a Ph.D. in Medical Genetics from the University of Toronto.

PROFESSIONAL EXPERIENCES

LOBLAW COMPANIES LIMITED, Brampton, Ontario   **06/2020 – 11/2023**
Director, Data Science, Health Data Products and Services
- Recruited, mentored, and managed a highly skilled team of nine data scientists and engineers working in three pods.
- Developed best practices and scalable operating procedures (Python/SQL) for data capture and analysis of epidemiological trends, pharmacy sales, and patient outcomes by sourcing, storing, linking, and cleaning diverse health data assets from millions of patients (EMR, pharmacy records, demographics, blood pressure kiosks).
- Merged design-thinking and Agile methodologies with sound statistical approaches to evaluate deep learning models (Spark NLP, HuggingFace Transformers, PyTorch) to predict medical conditions from medical notes.
- Oversaw the development of multiple proof-of-concept modeling projects including demand forecasting, treatment prevalences, and precision medicine treatments, while ensuring good clinical governance, privacy compliance, code preservation, and clear documentation/reporting.
- Actively supported the recruitment of hundreds of pateints to ethics review board (ERB) approved studies.
- Played a key role in negotiating, planning, and executing collaborative data and research agreements with commercial vendors and academic researchers at esteemed institutions such as the University of Toronto, the University of Alberta, and University Health Network.

DAGANTECH INC., Toronto, Ontario   **11/2017 – 05/2020**
Founder and CEO
- Hired, coached, mentored, and motivated talented University of Waterloo Engineering and Data Science graduates.
- Led a small research team in data processing and risk modeling using computer vision to identify and segment crops combined with weather patterns analysis (using decision trees) to predict insurance risks in thousands of farms.
- Developed a cuffless blood pressure algorithm to improve population health, in collaboration with the University of Toronto Biomedical Engineering Lab.
- Won RFP for video segmentation algorithm using face recognition model for Canada Border Services Agency.

IDEACONNECTION LTD., Laval, QC   **01/2016 – 11/2017**
Consultant (remote)
- Consultant with large corporations and startup founders in diverse business environments, including pharmaceuticals, healthcare, agriculture, and customer packaged goods (CPG).
- Analyzed large datasets and relevant literature to create insightful reports and machine-learning models (R, VBA).
- Won first place in the Syngenta AI Challenge, developing machine learning algorithm to predict soybean yields.

SPINESONICS MEDICAL, Toronto, Ontario   **01/2015 – 01/2016**
Business Development and Data Scientist
- Analyzed hospital and healthcare data, medical market research, clinical outcome data, and imaging data for novel surgical navigation diagnostic devices.
- Pitched to academics and industry leaders, culminating in an insightful business plan.

SICKKIDS HOSPITAL, Toronto, Ontario   **04/2006 – 07/2014**
Research Associate
- Compiled, integrated, and analyzed genomic and biostatistical data derived from brain tumour patients and animal models (mus musculus).
- Managed the team on in vitro drug screening and in vivo (mouse) validation of promising small molecule and lentiviral leads targeting medulloblastoma and glioma brain tumours.

EDUCATION

TORONTO METROPOLITAN UNIVERSITY (formerly Ryerson University)
Master of Business Administration (MBA), Management of Innovation and Technology

UNIVERSITY OF TORONTO
Doctor of Philosophy: Medical Genetics

THE HEBREW UNIVERSITY OF JERUSALEM
Bachelor of Science: Biological Sciences

RECENT PUBLICATIONS

Aviv, T., & Chau, J. (2022). **Cardiometabolic Treatment Trends in Pharmacy Records and Digital Surveys.** Canadian Journal of Diabetes, 46(7), S22.

Aviv, T., et al. (2021). **Remembering a pioneer in biotechnology**. Nature 600, 386.

Aviv T., Lundsgaard-Nielsen V. (2017) **Ensemble of Cubist models for soy yield prediction using soil features and remote sensing variables.** KDD 2017. Halifax, NS

PERSONAL INTERESTS

- Health innovation and longevity
- Endurance sports: Olympic distance and half-Ironman (70.3) triathlons
- Beer and cider brewing
- Treasurer and board member at a local synagogue