TEDDY LAZEBNIK

PERSONAL INFORMATION

Electronic Address: t.lazebnik@ucl.ac.uk
Mobile: +972-54-5524589
Marital Status: Married
Birth Date: 14th July, 1997

PROFESSIONAL SUMMARY

Mathematical models and algorithms researcher (and developer) in the fields of epidemiology, medicine, economics, and information systems. Ten years experience in software development in the industry, including five years experience as an algorithm developer with a focus on data-driven algorithms for bio-medical tasks, and AI algorithms for natural language processing, computer vision, and graph-based optimization.

ACADEMIC EDUCATION

Bar-Ilan University 2013 - 2016
B.Sc. in Applied Mathematics

· Final project about "Observable of Discrete-continuous Linear Time Interval Systems with Continuous Time Measurement".

Bar-Ilan University 2017 - 2018
M.Sc. in Applied Mathematics

· Thesis about "Highly Stable Numerical Algorithm for Matrix Exponent" (Hebrew) - supervised by Dr. Shlomo Yanetz.

Ariel University 2020 - 2021
Ph.D. in Biomathematics

· Thesis about "Modeling and Numerical Calculation of Pandemic Spread and Optimal Oncology Treatment Protocols" - supervised by Dr. Svetlana Bunimovich-Mendrazitsky.

ACADEMIC EMPLOYMENT

Holon Institute of Technology (HIT), Department of Mathematics Oct 2019 - Feb 2020
Teaching Assistant

· Teaching Numerical Analysis.

Holon Institute of Technology (HIT), Department of Mathematics Feb 2020 - July 2020
Lecturer

· Teaching Deep Learning for Computer Vision.

Bar-Ilan University, Department of Mathematics Oct 2018 - July 2020
Research And Teaching Assistant

· Teaching the following courses: partial differential equations (PDE), Introduction to linear mathematical optimization, Numerical Analysis 1, and Tools for Numerical Programming for Engineering.
· Academic research guidance and code review for Bachelor and Master computer science students' final project.

Bar-Ilan University, Department of Computer Science July 2020 - July 2021
Research And Teaching Assistant

· Teaching the following courses: Advanced Programming 1 and Advanced Programming 2.
· Academic research guidance for Master computer science students' final project.

ACADEMIC HONORS AND AWARDS

Bar-Ilan University 2017
M.Sc student

· A prize for excellence in studies and research at the master's degree in the name of David Barkovski.

LIST OF PUBLICATIONS

Articles in Refereed Journals

1. **T. Lazebnik**, L. Shami, S. Bunimovich-Mendrazitsky, Pandemic Management by a Spatio-temporal Mathematical Model. International Journal of Nonlinear Sciences and Numerical Simulation. 2021.
2. **T. Lazebnik**, S. Bunimovich-Mendrazitsky, L. Shaikhet, Novel Method to Analytically Obtain the Asymptotic Stable Equilibria States of Extended SIR-type Epidemiological Models. Symmetry. 2021.
3. **T. Lazebnik**, L. Shami, S. Bunimovich-Mendrazitsky, Spatio-Temporal Influence of Non-Pharmaceutical Interventions Policies on Pandemic Dynamics and the Economy: The Case of COVID-19. Economic Research-Ekonomska Istraživanja. 2021.
4. **T. Lazebnik**, S. Bunimovich-Mendrazitsky, The signature features of COVID-19 pandemic in a hybrid mathematical model - implications for optimal work-school lockdown policy. Advanced Theory and Simulations. 2021.
5. **T. Lazebnik**, S. Bunimovich-Mendrazitsky, N. Aaroni, PDE based geometry model for BCG immunotherapy of bladder cancer. Biosystems. 2020.
6. **T. Lazebnik**, S. Yantez, S. Bunimovich-Mendrazitsky, N. Aaroni, Treatment of Bladder Cancer Using BCG Immunotherapy: PDE Modeling. Functional Differential Equations. 2019.
7. **T. Lazebnik**, S. Yantez, A Stable Algorithm for Numerical Matrix Exponent. Functional Differential Equations. 2017.

Articles in Refereed Conferences

1. **T. Lazebnik**, S. Bunimovich-Mendrazitsky, Improved Geometric Configuration for the Bladder Cancer BCG-based Immunotherapy Treatment Model. ISMCO. 2021.

Manuscripts Submitted / Under Review

1. **T. Lazebnik**, S. Bunimovich-Mendrazitsky, A. Rosenfeld, An Algorithm to Optimize Explainability using Feature Ensembles.
2. **T. Lazebnik**, R. Reznik, A. Rosenfeld, M. Bunimovich-Mendrazitsky, OFEPS - An Algorithm to Optimize Feature Ensembles' Explainability. (Conference)
3. **T. Lazebnik**, S. Bunimovich-Mendrazitsky, Decision Tree Post-Pruning Without Loss Of Accuracy using the SAT-PP algorithm with An Empirical Evaluation on Clinical Data.
4. **T. Lazebnik**, S. Bunimovich-Mendrazitsky, A More Numerically Accurate Algorithm For Matrix Exponent.
5. **T. Lazebnik**, H. Weitman, Y. Goldberg, G. A. Kaminka, Rivendell: Project-Based Academic Search Engine.

6. **T. Lazebnik**, Z. Bahouth, S. Bunimovich-Mendrazitsky, S. Halachmi, Predicting Acute Kidney Injury Following Open Partial Nephrectomy Treatment Using SAT-Pruned Explainable Machine Learning Model.
7. **T. Lazebnik**, A. Alexi, Comparison of Pandemic Intervention Policies in Different Building Types Using a Spatio-Temporal Model.
8. **T. Lazebnik**, S. Bunimovich-Mendrazitsky, A. Kiselyov, Clinically Relevant Mathematical Model for the BCG-based Treatment Of Type 1 Diabetes.
9. **T. Lazebnik**, L. Shami, S. Bunimovich-Mendrazitsky, Optimal Border Closure Policy and Tourism Flows During Epidemiological-Economic Crises: An Artificial Intelligence Approach.
10. **T. Lazebnik**, U. Itai, Bounding Pandemic Spread By Heat Spread.
11. **T. Lazebnik**, L. Shami, S. Bunimovich-Mendrazitsky, Mathematical Modelling of Intervention Policy Influence on the Effect of an Epidemiological Crisis on Production Through Input-Output Networks.
12. L. Shami, **T. Lazebnik**, Financing and Managing Epidemiological-Economic Crisis: The Reserve Model.
13. S. Natan, **T. Lazebnik**, E. Lerner, A Distinction of Three Online Learning Pedagogic Paradigms.
14. Z. Zemah-Shamir, S. Zemah-Shamir, A. Scheinin, D. Tchernov, **T. Lazebnik**, G. Gal, The Likely Impact of Increased Ocean Acidification on Shark Behavior and Physiology: A Review Of Current Literature and Insights from Their Relatives.

Invited Talks

1. **Subject:** Simulating Complex Socioeconomic Dynamics Using the Agent-based Approach.
   Location: Reichman University, Environmental Science Institute's Faculty Seminar, 1.2022.
2. **Subject:** Pandemic Management with Economical Outcomes .
   Location: Tel Aviv University, Mathematics Faculty Seminar, 10.2021.
3. **Subject:** Optimizing Explainability Using Feature Selection With Iterative Ensembles Intersections.
   Location: Holon Institute of Technology, Computer Science Faculty Seminar, 10.2021.
4. **Subject:** Influence of Non-Pharmaceutical Interventions Policies on Pandemic Dynamics from Economic Prospective.
   Location: Western Galilee College, Economics Faculty Seminar, 6.2021.
5. **Subject:** PDE Modeling of Bladder Cancer Treatment Using BCG Immunotherapy.
   Location: Functional Differential Equations conference, 8.2019.
6. **Subject:** A Stable Algorithm for Numerical Matrix Exponential.
   Location: Bar-Ilan University, Mathematics Faculty Seminar, 8.2017.

LANGUAGES

- **Hebrew:** Native.
- **Russian:** Native.
- **English:** Full professional proficiency.