Contact

www.linkedin.com/in/mardanlou (LinkedIn)

Top Skills

Matlab

Simulations

Mathematical Modeling

Languages

English (Professional Working)

Persian (Native or Bilingual)

Azerbaijani (Native or Bilingual)

Certifications

Neural Networks and Deep Learning

Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization

edX Certificate for Introduction to Computer Science and Programming Using Python

Structuring Machine Learning Projects

Reviewer and Chair at 13th ISCEE Conference, TMU, Iran.

Publications

Multiple model predictive control of multivariable pH process using adaptive weighting matrices

An algebraic approach to parameter optimization in biomolecular bistable systems

A coarse-grained model of DNA nanotube population growth

Implementation of Brain Emotional Learning Based Intelligent Controller(BELBIC) on Ball and Plate Plant

Design of a molecular bistable system with RNA-mediated regulation

Vahid Mardanlou

Data Scientist @ Bird

Irvine, California

Experience

Bird

Data Scientist

August 2019 - Present (8 months)

Greater Los Angeles Area

University of California, Riverside

2 years 11 months

Lecturer

September 2017 - Present (2 years 7 months)

Riverside

Researcher

May 2017 - September 2017 (5 months)

Riverside

Acorns

Data Scientist

October 2017 - August 2019 (1 year 11 months)

Irvine

Insight Data Science

Insight Data Science Fellow

January 2017 - May 2017 (5 months)

Palo Alto

University of California, Riverside

4 years 7 months

Research and Teaching Assistant

September 2013 - March 2017 (3 years 7 months)

Bourns College of Engineering(BCOE)

Teaching Assistant of Dr. Chomko for the following courses,

- EE001A/EE01LA: Engineering Circuit Analysis (I) and the Lab (Fall 2013/ Spring 2014/Fall 2014/Spring 2016)

- EE 100B: Electronic Circuits B and the lab (Winter 2014)
- EE110A/B: Signals and Systems I & II (Fall 2015/Winter 2016)

Research Assistant
September 2012 - March 2017 (4 years 7 months)
Riverside, CA, USA

- Dynamic modeling of DNA nanotube self-assembly

Many biological scaffolds, such as the cytoskeleton, are built with filamentous polymers that are constantly assembling and disassembling in response to environmental inputs and cellular instructions. DNA nanotechnology has produced a variety of artificial, rationally designed tubular structures whose dimensions and mechanical properties are comparable to those of natural filaments such as actin and microtubules. DNA nanotubes self-assemble from tiles that can be single-stranded or multi-stranded; inter-tile binding patterns are determined by programmable single stranded interaction domains. Here, we focus on DNA nanotubes assembling from multi-stranded tiles. We derive a coarse-grained model that captures the temporal evolution of DNA nanotube length distribution during growth experiments. The model takes into account nucleation, polymerization, joining, and fragmentation processes in the nanotube population. The continuous length distribution is segmented, and the behavior of nanotubes in each length bin is modeled using ordinary differential equations. The binning choice determines the level of coarse graining. This model can handle time varying concentration of tiles, and we foresee that it will be useful to model dynamic behaviors in other types of biomolecular polymers. This research is motivated by the rapid expansion of dynamic DNA nanotechnology, which offers exciting opportunities to use DNA strand displacement circuits to control tile self-assembly. Existing methods to model tile or nanotube assembly are not suited to track length distributions, and cannot handle dynamically varying free tile concentration.

- Design biological circuits

- Design decentralized controllers

- Apply system and control concepts on biological phenomena

- Stability analyzing the biological systems

Verizon
Algorithm Research
June 2016 - September 2016 (4 months)
Palo Alto

- Implemented machine learning methods to achieve a plausible model for bidding-price predictor to maximize the company's revenue based on some nonlinear constraints.
- Used Oracle SQL and Hive to query data from relational and distributed databases.
- Applied statistical toolboxes in R software (Machine Learning approaches) to find a proper statistical model.
- The outcome of the research will be appeared soon in the proceeding of American Control Conference, IEEE, 2017.

Title: Mardanlou V., Karlsson N., Guo J., Statistical Plant Modeling and Simulation in Online Advertising.

University of Applied Science and Technology
Instructor
September 2011 - June 2012 (10 months)
Tehran

Instructor for the following courses,

1. General Mathematics
2. Linear Algebra
3. Statistics and Probability
4. Linear Control Systems

K. N. Toosi University of Technology
Linear Control Lab Instructor
September 2009 - December 2011 (2 years 4 months)

Design PID/lead/lag controllers for the heat exchanger and DC servo motor

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Education

University of California, Riverside
Doctor of Philosophy (Ph.D.), Electrical Engineering · (2012 - 2017)

K. N. Toosi University of Technology
Master of Science (MS), Electrical Engineering majored in Control · (2008 - 2011)

K. N. Toosi University of Technology

Bachelor of Science (B.Sc.), Electrical Engineering majored in Control · (2003 - 2008)