

# Shayan Amani

## Data Scientist and Machine Learning Practitioner

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### TECHNICAL SKILLS & TECHNOLOGIES

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- **Languages:** Python, R, SQL, Java, C/C++/C#, MATLAB, Julia, Stan, LaTeX, Build Tools (Maven, Gradle)
- **Technologies:** Git, AWS (RedShift, EC2, S3, SageMaker), GCP (Maps, Geocoding, Places), \*nix CLI (macOS, CentOS, Debian, RHEL), Web Servers (Apache, NGINX), Web Frameworks (Flask, FastAPI), API deployment (REST, SOAP), Database (MongoDB, Firebase, Neo4j(graph)), Docker, Android SDK
- **ML:** TensorFlow, PyTorch, scikit-learn, pandas, NumPy, Transformers, Optimization (Gurobi), Parallelization (Dask, Joblib)

### EDUCATION

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**M.S. in Computer Science** - UNIVERSITY OF NEW HAMPSHIRE

GRADUATED : MAY 2020

GPA 3.8 / 4.0 – **CEPS Scholarship Award** – Reinforcement Learning and Robustness Lab (RLsquared)

Research Topic: Distributional State Aggregation in Reinforcement Learning

The Ph.D. program prepared me with the right mindset and the skillset to pursue a career in the AI industry.

**B.S. in Electrical Engineering** - SHAHROOD UNIVERSITY OF TECHNOLOGY

GRADUATED: MAY 2015

GPA 3.2 / 4.0 – IEEE Student Member – RCMP Lab

Research Topic: Disc-Type Hysteresis Motors With Slotless Magnetic Stator Core

### INDUSTRY EXPERIENCES

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**Data Scientist** - TALON

MAY 2020 – PRESENT

- Designed and implemented an end-to-end siamese neural network clustering pipeline of US providers nationwide.
- Trained/Fine tuned and successfully deployed a multitude of –transformer-based– classification models.
- Developed and published the **mongo-taskqueue** queueing library specialized for data collection/processing pipelines.

**Data Science Intern** - TALON

MAY 2019 – AUG 2019

- Trained and deployed hierarchical medical procedure classifiers which automated a manual task with 98% accuracy.

**Web and Mobile Developer** - UNH ACADEMIC TECHNOLOGY

SEP 2017 – NOV 2017

- Maintained and developed features of the UNH's mobile applications (5 apps) within the Ionic framework.
- Deployed new modules on the UI side and authentication exchange along with test design.

**Co-Founder & CEO** - IOTON SOFTWARE DEVELOPMENT GROUP

MAY 2014 – AUG 2017

- Created Gramity (Telegramity), a feature-rich messaging app based upon Telegram API.
- Reached 200k MAU in 5 months within local app markets of 25 million active installations.
- Actively involved in the entire cycle of development, test, and distribution.

### ACADEMIC EXPERIENCES

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**Graduate Teaching Assistant** - UNIVERSITY OF NEW HAMPSHIRE

AUG 2017 – MAY 2020

- Conducted lab and recitation sessions for a myriad of different courses on Python, Java, and C# programming.

**Graduate Research Assistant** - UNIVERSITY OF NEW HAMPSHIRE

MAY 2018 – AUG 2018

- Devised a control policy of invasive species in the New England region with a reinforcement learning approach.

**Research Assistant** - RCMP, SHAHROOD UNIVERSITY OF TECHNOLOGY

FEB 2015 – SEP 2015

- Proactively engaged and collaborated in the design, simulation, build and analysis process of a special electric motor.

**Teaching Assistant** - SHAHROOD UNIVERSITY OF TECHNOLOGY

SEP 2013 – JAN 2015

- Guided a class of engineering mathematics as the teaching assistant in two consecutive semesters for +70 students.

## PROJECTS

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**PASSAGE RE-RANKING WITH NEURAL BIDIRECTIONAL ENCODER (BERT)**

- Trained BERT language model on TREC CAR dataset to learn the passage retrieval ranking task.
- Leveraged a pipeline of convolutional layers to fine-tune BERT which yielded 100% accuracy improvement.

**TIME INTERVAL SELECTION IN NASA MAGNETOSPHERIC MULTISCALE MISSION**

- Trained a classifier to explore prioritized times for which data should be downloaded from the satellite.
- Pre-processed time series and then applied model selection measures on Random Forest, Boosting, and SVM.

**TELEGRAMITY – MOBILE MESSAGING APPLICATION**

- Android messaging application created based on the Telegram API. Reached +200k active installations in 5 months.

## PATENT & PUBLICATION

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- **Patent:** S. Amani, A. Darabi, H. Tahanian, M. Sedghi, Combinational-flux disk-type hysteresis motor without axial-flux disk magnetic holder, IPO 139650140003008203 – **Granted: September 2017**
- **Journal Article:** A. Darabi, H. Tahanian, S. Amani and M. Sedghi, "An Experimental Comparison of Disc-Type Hysteresis Motors with Slotless Magnetic Stator Core," in IEEE Transactions on Industrial Electronics.

## HONORS & AWARDS

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**Hack New Hampshire Hackathon** - MOST INNOVATIVE TECHNOLOGY AWARD

FEB 2019

- Implemented a personalized place recommender neural network engine based on facial expression.

**CEPS Graduate Scholarship** - UNIVERSITY OF NEW HAMPSHIRE

MAR 2017

- Awarded along with direct admission to doctoral program (waived the master's degree pre-requisite).

## RELATED VOLUNTEER EXPERIENCES

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**Graduate Orientation Leader** - GLOBAL STUDENT SUCCESS PROGRAM – NAVITAS

JAN 2019

**Senior Technical Translator** - TELEGRAM MESSENGER LLP

MAY 2017 – MAY 2020

**Article Author** - ALTERNATIVE – SCIENTIFIC AND INDUSTRIAL JOURNAL

MAY 2014