

# Novin Shahrudi

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## LINKS

Github:// novinsh  
LinkedIn:// novinshahrudi  
Stackoverflow:// novinsh  
Twitter:// @novinsh  
Skype:// novinshahrudi

## SKILLS

### SOFT-SKILLS

Communication • Positive Attitude •  
Project Management • Leadership •  
Teamwork • Problem-solving

### HARD-SKILLS

Machine Learning • Deep Learning  
Deep Reinforcement Learning  
Data Analytics • Statistical Modeling  
Predictive Analysis • Sequence Mod-  
eling and Time-series • DevOps • Re-  
search • Teaching

### PROGRAMMING

Over 5K lines:  
Python • C/C++ • Matlab • R • Java  
Over 1K lines:  
Bash script • CSS • HTML  
Javascript • MySQL •  $\text{\LaTeX}$

### SOFTWARES/LIBRARIES

Keras • Tensorflow • SciPy •  
Scikit-learn • StatsModel •  
Jupyter-notebook • Tableau •  
Google Protobuf • Eclipse • Pycharm  
• Qt Creator • R Studio • vim • Trello

## LANGUAGE

Persian: Native  
English: Fluent  
Swedish: Beginner  
Estonian: Beginner  
German: Beginner  
Ukrainian: Beginner

## EDUCATION

### KTH ROYAL INSTITUTE OF TECHNOLOGY

#### EXCHANGE STUDIES IN MACHINE LEARNING

Jan 2019 – June 2019 | Stockholm, Sweden

- Coursework:
  - DD2437 Artificial Neural Networks and Deep Architectures
  - DD2424 Deep Learning in Data Science
- Master Thesis at Greenlytics together with SICS at RISE on the topic of Uncertainty in Deep Learning and Time Series Forecasting in Energy Domain

### UNIVERSITY OF TARTU

#### MS IN COMPUTER SCIENCE, DATA SCIENCE TRACK

Grad. Expected Jun 2019 | Tartu, Estonia

Cum. GPA: 4.5/5

- Teaching Assistant in Algorithmics Course
- Summer Intern at Machine Learning Research Group
- Notable Projects:
  - Deep Music Generation:** Learning textual representation of classical music pieces with LSTMs for generating new pieces
  - M4 Competition:** Time-series forecasting with RNNs, devising a simple extrapolation forecasting, and ensemble models
  - PommermanX:** Developing a Reinforcement Learning Agent for Pommerman competition
  - Sign Language Classification:** Applying PCA for dimensionality reduction and LDA/QDA for classification.

### QAZVIN AZAD UNIVERSITY

#### BS IN COMPUTER SOFTWARE ENGINEERING

Grad. Jul 2016 | Qazvin, Iran

GPA: 17.1 / 20.0

- Undergraduate Research Programmer at university's research facilities
- Participating in International RoboCup Competitions 2012 – 2017
- Co-founding a Start-up at University's Accelerator

## WORK EXPERIENCE

### GREENLYTICS | MASTER THESIS INTERN

Expected Jun. 2019 | THINGS and SICS @ RISE, Stockholm, Sweden

Focus of the project:

- Accurate Time Series Forecasting with Deep Learning models (mainly RNNs)
- Calibrated Uncertainty Derivation from Deep Learning models
- With applications in energy domain mainly on wind power production

### HACKJUNCTION'18 | PARTICIPANT IN ERICSSON'S CHALLENGE

Nov 2018 | University of Aalto, Helsinki, Finland

- Taking part in Signaling Heroes, Ericsson Challenge at IoT Track
- Implementing an ensemble of decision trees for anomaly detection

### ML RESEARCH GROUP | SUMMER INTERN

July 2018 – Sep 2018 | Institute of Computer Science, Tartu, Estonia

- Main focus: *Prediction intervals in time series forecasting, Uncertainty estimation, and Calibration of machine learning outputs*
- Completing Deep Learning Specialization by Andrew Ng on Coursera

## RECREATIONAL

Reading: Philosophy and Psychology  
Movie: Sci-fic, Documentary, Drama  
Sports: Running, Boxing, Table Tennis  
Other: Learning a new language on Duolingo, sketching, photography

## ADDITIONAL EXPERIENCE

### UNIVERSITY OF TARTU | TEACHING ASSISTANT

Sep 2018 – Jan 2019 | Institute of Computer Science, Tartu, Estonia

- Teaching, devising tasks and evaluating student works in Algorithmics

### ROBOCUP SPL | ORGANIZING & TECHNICAL COMMITTEE

2013 – 2018

- Responsibilities: Advertising the event, publishing materials on the event webpage, processing application of teams for participation (qualification process), setting rules of the competition, communicating with teams regarding technical and organizational matters, communicating with different parties for logistics at the construction site for venue setup and placing participating teams (5 to 30 teams, approx. 20 to 150 people).
- RoboCup SPL Iran Open (2013 – 2018)
- RoboCup SPL Montreal, Canada (2018)

### NAO ROBOT LAB. | TEAM LEADER

Aug 2016 – Aug 2017 | Mechatronics Research Laboratories, Qazvin, Iran

- Leading a team of 10 graduate and undergraduate students for RoboCup Competitions in Nagoya Japan 2017 and Iran Open 2017
- Writing (research) proposals for funding
- Project management and organization
- Code release and publishing technical reports

### GANDOMAK LLC | Co-FOUNDER + CSO + JAVA DEVELOPER

Jul 2014 – Jul 2017 | SYNTECH Center, Qazvin, Iran

- Implementing MVP for an indoor positioning system (Android app)
- Implement Kalman & Particle filters for position estimation and data fusion
- Pilot deployment at SYNTECH Innovation and Technology Center
- Negotiation with potential customers for deployment in shopping malls

### NAO ROBOT LAB. | RESEARCH PROGRAMMER

2012 – 2016 | Mechatronics Research Laboratories, Qazvin, Iran

- Participating in International RoboCup SPL competitions: Mexico 2012, Brazil 2014, German Open 2014 (3rd place), Iran Open 2014 (1st place), China 2015, and Japan 2017
- Notable Projects:
  - **Multi-agent Cooperation of Nao Robots in Soccer Game:** Implementation of Hierarchical Finite State Machines (HFSM) in C++. Voting and time-optimal task assignment and behavioral tasks of the humanoid robots
  - **Sound Signal Processing:** Detecting whistle and computer generated sound signal for the RoboCup João Pessoa 2015 Technical Challenge using FFTW and phash in C++ on Nao Humanoid Robot

### QAZVIN AZAD UNIVERSITY | TEACHING ASSISTANT

Fall 2014 | Faculty of Electrical & Computer Engineering

- Advanced Programming with C++ / Prof. Omid Amirghiasvand

## PUBLICATION

- A. Ingel, N. Shahroudi, M. Kängsepp, A. Tättar, V. Komisarenko, M. Kull, "Correlated Daily Time Series and Forecasting in the M4 Competition", International Journal of Forecasting, 2019 (Awaiting Copy Editing).
- A. M. Mehr and N. Shahroudi, "A debugger tool for vision on humanoid framework," 2013 3rd Joint Conference of AI & Robotics and 5th RoboCup Iran Open International Symposium, Tehran, 2013, pp. 1-5.