S. Vahid Ghayoomie

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Researcher
Data Scientist
Scientific Programmer
Bioinformatician
Computational Neuroscientis
Startup Activist

While studying B.Sc. in Computer, and doing **programming** as a part-time job, the enjoyment of problem solving, drove me to the field of **ethical computer hacking**. Reading some scientific books changed my path and caused me to think about hacking into the life's code instead of someone else's. I began to read biology references and applied for a Master's in **Biology-Biochemistry**, while working in the IT industry and later the **Data Science** world. Being introduced to the OpenWorm community and some other initiatives in **Computational Biology** and **Neuroscience** made me to apply for another master program in **Mechatronics** to be able to better understand the most complex machine on Earth -- the human body and brain.

Skills (left column)

Skill	Level
Drug Design	50%
Mutation Analysis	70%
English Writing	70%
CFD	60%
Energy Metabolism	60%
Robots and Control	60%
Pacemakers	40%
ECGs	40%
CSS, HTML	60%
JavaScript	50%
React.JS, Node.JS	50%
Stock Markets	60%
Cryptocurrency Infra	60%
Business Management	40%
Linux (CentOS)	80%
Apache Hadoop	70%
Scrum	70%
Data Warehousing	60%
Hortonworks	60%
Cloud Computing	60%
OpenStack	60%
CI/CD	60%
Spark	50%
Non-relational DBs	50%
IBM Biginsights	50%
Mongo DB	50%
Fraud Detection	70%

Timeline

Feb 2021 - Present
Chopen - OpenWorm
Independent Researcher

Researching and writing papers on mathematical models of drugs in ion channels, mutation analysis, systems biology, Neural Networks, and biomechanical models

Sep 2019 - Feb 2021
Sharif University of Technology - International Campus
Master's in Mechatronics

Took more than 10 courses in Mechatronics including fundamental under-graduate courses in Mechanical and Electrical engineering

Sep 2018 - Sep 2019
Startup Activities
Initiator, Mentor

Mentoring and initiating startups:
- Smart Pacemakers and ECGs (Biomedical Engineering)
- WebShop Builder (Online Marketing)
- Local Stellar (Cryptocurrency Platforms)

Jan 2018
Royal Society
Invited Speaker

Event: Connectome to behaviour: modelling C. elegans at cellular resolution
Publication: OpenWorm: overview and recent advances in integrative biological simulation of Caenorhabditis elegans, GP Sarma, CW Lee, T Portegys, V Ghayoomie, T Jacobs, B Alicea, ..., P Gleeson, and S Larson Phil. Trans. R. Soc. B 373 (1758), 20170382, 2018

Apr 2015 - Sep 2018
Sadad Informatics Corp.
Data Engineer

- Researching and managing implementation of the best big data and cloud solutions matching data architecture of the organization (**Cutting the costs of data infra by ~5 fold**).
- Setting up two teams for further works related to data science, big data and cloud infrastructure.
- Consulting implementaion of a fraud detection system

Feb 2015 - Mar 2018
OpenWorm
Senior Contributor

Project ChannelWorm:
Exploring ~1000 literatures, gathering gene, protein (amino acid) data, and digitizing patch-clamp data
Modeling ion channels
Predicting kinetics using machine learning techniques

Years: 2021, 2020, 2019, 2018, 2017, 2016, 2015

Skills (right column)

Skill	Level
Engineering Math	90%
Neural Networks	90%
Electrical Circuits	70%
Automatic Control	80%
Fluid Mechanics	60%
Thermodynamics	60%
Statics, Dynamics, Vibrations	70%
Microprocessors	70%
Signals and Systems	70%
Ion Channel Models	100%
Python	90%
Jupyter Notebooks	90%
Sequence Analysis	80%
Markov Models	70%
Statistical Models	70%
Django	70%
NEURON	50%
Modeling	70%
NeuroML	60%
Git, GitHub	90%
Machine Learning	70%
Optimization, fitting	70%
Keras, TensorFlow	60%
Slack	90%
Scikit-Learn	70%
Multiprocessing	60%
Amazon AWS	60%

Skills (Left column)

- Web App Firewalls — 80%
- Microsoft Project — 80%
- Apache Modsecurity — 80%
- Linux (Debian) — 70%
- C/C++ — 70%
- Shell Scripting — 60%
- PHP — 50%
- Perl — 40%
- SIEM — 70%
- Honeypot — 70%
- Network Appliences — 60%
- Load Balancing & HA — 60%

- Microsoft SDL — 80%
- Web App Security — 80%
- Web Services — 80%
- Accunetix — 70%
- Reverse Engineering — 70%
- Cryptography — 60%
- Java — 50%
- IDEA Pro — 40%
- Visual Studio — 70%
- Code Review — 70%
- Secure Programming — 60%
- Assembly — 60%

Timeline (Center)

2015

Mar 2015 - Jul 2015
Coursera
Specialized Certificates

Mar 2014 - Sep 2014
2014
LBB, University of Tehran
Researcher
Working on my master's thesis, Studying halmarks of aging

2013

Sep 2011 - Sep 2014
Payame Noor University of Tehran
Master's in Biology, Biochemistry
2012
More than 15 courses in Biology and Biochemistry. Thesis: "Computational modeling of ion channels and structure- function relationship analysis"

2011

Mar 2011 - Jul 2011
Honeynet - Iranian Chapter
Volunteer researcher
2010
Working on cutting-edge research areas on implementing honeypots, detecting malwares, rootkits, and shell codes.

2009

Mar 2012 - Mar 2015
Saba System Sadra
System Engineer, Project Manager
Designing and cooperating in development of Azaram WAF (A Linux-based Web Application Firewall)

Oct 2010 - Sep 2014
Different Organizations
Teaching and Consulting
Application penetration testing, teaching and consulting software security development for different organizations.

Jul 2008 - Mar 2012
Pars Processing Pioneer
Software Security Engineer
Security assessment and secure implementation consultant of applications and services.

Jun 2005 - Jul 2008
Different locations
Ad-hoc working experiences
During my under-graduate educations I experienced different part-time jobs and businesses in the IT and non-IT industries

2008

Sep 2005 - Jan 2010
Islamic Azad University South Tehran
B.Sc. in Information Technology
2007
Among top graduated students, GPA: 17.43/20

2006

2005

Sep 2002 - Jun 2005
Shariati, Mofateh High Schools
Diploma in Math and Physics
Preuniversity GPA: 18.90/20
Diploma GPA: 18.60/20

2002

Skills (Right column)

- Comp Neuroscience — 80%
- Bioinformatics — 90%
- Genomic Data Science — 90%
- Machine Learning — 80%
- Matlab, R — 60%
- Data Mining — 80%
- Text Retrieval — 60%

- Biochemistry — 70%
- Genetics — 60%
- Cellular Biology — 60%
- Molecular Biology — 60%
- Biotechnology — 70%
- Metabolism — 50%
- Enzymology — 50%
- Statics in Biology — 80%
- Biophysics — 70%
- Proteins, Amino Acids — 70%
- Hormones — 50%

- IT Engineering — 70%
- Project Management — 70%
- Computer Networks — 60%
- Artificial Intelligence — 80%
- Operating Systems — 80%
- Comp Architect — 70%
- Relational Databases — 80%
- Software Engineering — 80%
- Data Structures — 80%
- Algorithms — 70%
- C/ C++ /C# / ASP.NET — 70%
- Mathematics — 70%

IELTS (Academic)
Dec 2018, Overall: 6.5
- Speaking — 7
- Listening — 7
- Reading — 6.5
- Writing — 6

OTHER ACTIVITIES

I enjoy playing sports (Swimming, Tennis, Football, Volleyball), reading books, watching movies, Listening to music, playing the Piano, and learning different languages (I'm currently learning French and had some practices in Arabic and Armenian).

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