ARIYAN ZAREI

Machine Learning Software Engineer

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EXPERIENCE

Machine Learning Software Engineer Intern
Meta Platforms, Inc.
May 2022 – August 2022 | Menlo Park, CA

- Worked with the Ads Fairness team
- Designed and developed different Supervised and Reinforcement Learning models

Graduate Research Assistant
University of Arizona
January 2019 – Ongoing | Tucson, AZ

- Developed an efficient and scalable geo-correction and image stitching method (MegaStitch) for orthomosaicing agricultural images in order to estimate the relations between plant genotypes and phenotypes. **(Joint with Phytooracle team and Cyverse)**
- Developed MegaStitch3D for geo-correcting 3D point clouds. **(Joint with Phytooracle team and Cyverse)**
- Developed End-to-End Deep Instance Segmentation Model (SorghumPartNet) for segmenting 3D point clouds of sorghum leaves. **(Joint with Phytooracle team and Cyverse)**
- Designed and developed Neural Networks for estimating precipitation patterns on Spatio-Temporal data using the IMERG product.
- Designed and developed Neural Networks for classification and segmentation of breast cancer in Whole Slide Images (WSI) of breast tissue.
- Collected and annotated an image dataset and developed Neural Network models to detect and segment charcoal dry rot disease on sorghum plants. **(Joint with Phytooracle team and Cyverse)**

IT Intern
NP Photonics
June 2021 – Present | Tucson, AZ

- Designed and developed a network-based windows application for data management and analysis on the experiments conducted by the R&D team using Python QT and Microsoft SQL Server.
- Designed and developed an IT Help Desk Ticketing System using Microsoft-Office 365 applications (SharePoint, Power Apps, and Power Automate).
- Designed and developed a Learning Management System (LMS) for the employee training using Microsoft-Office 365 applications (SharePoint, Power Apps, and Power Automate).
- Designed and developed an application for Customer Order Entry Request using Microsoft Office 365 applications.
- Designed and developed an application for Internal Purchase Order Requests using Microsoft Office 365 applications.
- Designed and developed an application for Part No Change Requests using Microsoft Office 365 applications.
- Deployed, Maintained and Managed the local network using Windows Server and Active Directory.

Graduate Teaching Assistant
University of Arizona
August 2018 – May 2019 | Tucson AZ

MOST PROUD OF

Received the 2022 Galileo Circle Scholarship
From the School of Science, University of Arizona.

Receiving the Tech Launch Arizona Award
to design and develop an intelligent gardening application

Achieving Bronze Medal in Worldskills Competition
in IT Software Solutions for Business

Leading two Student Clubs
during my studies at University of Arizona and Shahid Beheshti University.

STRENGTHS

Hard-working | Persuasive | Motivator & Leader

Pytorch | Reinforcement Learning | Keras and Tensorflow | OpenCV | Python | Django REST Framework | React Native | Docker | Singularity | Java | C# | C and C++ | SQL Server

LANGUAGES

English
Persian

EDUCATION

PhD in Computer Science
University of Arizona
August 2018 – May 2023

Advisor: Prof. Kobus Barnard
GPA: 3.80

M.Sc. in Computer Science
University of Arizona
August 2018 – December 2020

GPA: 3.80

Undergraduate Research Assistant
Shahid Beheshti University
January 2016 – December 2017 Tehran, Iran

- Developed a Gesture Recognition software using Microsoft Kinect to assist treating patients with neurodevelopmental disorders, such as autism and hyperactivity.
- Designed and developed Neural Networks to track motorcycles and detect drivers who are not wearing helmet.

PUBLICATIONS

Journal Articles

- Zarei, A. (n.d.). The effect of applying gaussian blur filter on captcha's security.
- Ehsani, M. R., Zarei, A., Gupta, H. V., Barnard, K., Lyons, E., & Behrangi, A. (2022). Nowcasting-nets: Representation learning to mitigate latency gap of satellite precipitation products using convolutional and recurrent neural networks. *IEEE Transactions on Geoscience and Remote Sensing*, *60*, 1–21.
- Zarei, A., Gonzalez, E., Merchant, N., Pauli, D., Lyons, E., & Barnard, K. (2022). Megastitch: Robust large-scale image stitching. *IEEE Transactions on Geoscience and Remote Sensing*, *60*, 1–9.
- Gonzalez, E., Zarei, A., Hendler, N., Cosi, M., Demieville, J., Calleja, S., … Lyons, E., et al. (2021). Phytooracle: Scalable, modular phenomic data processing pipelines.
- Zarei, A. (2014). Improve captcha's security using gaussian blur filter. *Signal & Image Processing*, *5*(5), 35.

Conference Proceedings

- Zarei, A., & Shooshtari, A. Y. (2018). A feature vector for optical character recognition. In *Proceedings of the 2018 international conference on information science and system* (pp. 133–136).

B.S. in Computer Science
Shahid Beheshti University
August 2013 – April 2018
GPA: 3.92

REFEREES

Prof. Kobus Barnard
@ University of Arizona
http://kobus.ca

Dr. Eric Lyons
@ University of Arizona
https://cals.arizona.edu/spls/content/eric

Dr. Duke Pauli
@ University of Arizona
https://cals.arizona.edu/spls/content/duke

Prof. Bedrich Benes
@ Purdue University
https://www.cs.purdue.edu/homes/bbenes/cv/

Dr. Ali Katanforoush
@ Shahid Beheshti University
http://facultymembers.sbu.ac.ir/katanforoush