

Mai Elkady

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Research Interests

Machine Learning, Data Mining, Deep Learning, Big Data, Computational Biology, Bioinformatics

Education

- Aug 2018 – **Ph.D. in Computer Science**, *Purdue University*, West Lafayette, IN, USA.
 - Present ○ GPA: 3.8
 - Advisor: Petros Drineas
- Aug 2016 – **M.Sc. in Computer Science**, *Purdue University*, West Lafayette, IN, USA.
 - May 2018 ○ GPA: 3.8
 - Honors: Fulbright Scholarship
- Sep 2007 – **B.Sc. in Communication Systems**, *Ain Shams University*, Cairo, Egypt.
 - June 2012 ○ GPA: 3.58
 - Honors: Dean's list for Fall 2007 and Spring 2008

Skills

- Programming Languages Python, C/C++, MATLAB, R, SQL, PHP
- Languages Fluent in English and Arabic (mother tongue), Basic knowledge in German (A1)

Posters

"TeraPCA: A Fast and scalable method to study genetic variation in tera-scale genotypes", American Society of Human Genetics (ASHG), Orlando, FL, October 2017 (presented by A. Bose)/ Gene Goloub SIAM Summer School, Aussois, France, June 2019 (presented by **M.Elkady**)

Publications

A. Bose, V. Kalantzis, E. Kontopoulou, **M. Elkady**, P. Paschou, P. Drineas, "TeraPCA: A fast and scalable software package to study genetic variation in tera-scale genotypes", *Bioinformatics*

Projects

- Dec 2018 – **Flower Species Identification**, *PyTorch Scholarship Challenge Program, Udacity*.
- Jan 2019 Employed a DenseNet pre-trained Convolutional Neural Network model to train an image classifier to identify 102 different species of flowers. The code was written in **Python** and used **PyTorch** for deep learning, and the training was done utilizing GPUs on Google Colab.
- May 2017 – **Synthetic Genotype Data Simulator**, *Purdue University*.
- Aug 2017 As part of a team, implemented a data simulator in **C/C++** that generates synthetic genotype data using the Pritchard-Stephens-Donnelly (PSD) model.
- Oct 2016 – **Data Mining Project: Predicting Pulp Fiction Lovers**, *Purdue University*.
- Nov 2016 As part of a class Kaggle competition, tried several Machine learning approaches, and coded them in **R** and **Python**, to predict whether users will like the movie Pulp Fiction given their previous movie ratings.

- Sep 2011 – **Seniors Graduation Project**, *Ain Shams University*.
June 2012
 - Wrote **Bash scripts** to parse log files of calls in Vodafone network, and stored the output of the parsing in a **MySQL** database.
 - Built a website in **PHP** that graphically represents data stored in the database.

Attended Conferences and Summer Schools

- Sep 2018 **Grace Hopper Conference (GHC)**, *Houston, Texas*.
Awarded a scholarship by Purdue Computer Science department to attend GHC 2018
June 2019 **Gene Goloub SIAM Summer School (G2S3)**, *Aussois, France*.
Selected as one of the 40 participants to attend the 9th G2S3 on high performance data analytics

Experience

- Aug 2018 – **Teaching Assistant**, *Computer Science Department, Purdue University*.
Present for Foundations of Computer Science (CS 182) - Spring 2019
 - Held office hours to assist students with problems
 - Graded Homeworksfor Programming in C (CS 240) - Fall 2018
 - Held labs and office hours to assist students with coding problems
 - Graded quizzes, and exams

Feb 2013 – **Junior Lab Engineer**, *Electronics Department, The American University in Cairo (AUC)*.
July 2016
 - Operated and maintained electronic equipment (servers, computers, printers, sophisticated measurement equipment, kits and development board) in the Electronics and Communications Engineering laboratories and offices.
 - Assisted students with technical problems in labs and with courses' projects including senior projects.

Dec 2015 – **System Administrator & Developer for Arches**, *Theban Mapping Project (TMP), AUC*.
Jan 2016
 - Worked on creating a web based database of Egyptian archaeological sites using an open source software product called 'Arches' which has been particularly developed for inventories of cultural heritage.
 - Customized Arches for the Egyptian database by writing code in Python, JavaScript, HTML, and CSS

Sep 2014 – **Teaching Assistant for Communications Lab (ECNG 4314)**, *Electronics Department, AUC*.
Dec 2014
 - Assisted students with technical difficulties in the lab
 - Graded quizzes

Activities

- Jan 2017 – **Outreach officer**, *Purdue Fulbright Association (PFA), West Lafayette, IN, USA*.
Present
 - Organized events and activities for PFA members.

Jan 2016 – **Volunteer**, *Safarni, Cairo, Egypt*.
July 2016
 - Designed decorations for safarni travel days.
 - Directed and supervised kids during the safarni travel days.

May 2015 – **Graphic designer & Social media member**, *Have A Dream, Cairo, Egypt*.
May 2016
 - Prepared designs and illustrations to promote Have A Dream events.
 - Managed Have A Dream facebook's page and website.

Sep 2012 – **Exchange Participant**, *International Kindergarten Project, Lublin, Poland*.
Oct 2012
 - Taught children aged from 4 - 12 years about Egypt and its culture.
 - Prepared weekly activities plan for each day (with games, dances, songs and/or presentations) to engage the children in learning.