Enes Kemal Ergin

Contact Information

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Research Interests

Deep learning applications in genomics and epigenomics, cancer genomics, next-generation sequencing analysis, systems biology, machine learning applications

Education

North American University (NAU), Stafford, Texas USA

B.S., Computer Science, 2013 - 2017

Research Experience

Visiting Researcher

Harvard Medical School **November, 2015 - September, 2016**

- Research: Predicting the determinant of alternative splicing of RNA transcription
  - Search on the question; **do chromatin state has any influence in alternative splicing?**
  - Developed a **deep convolutional neural betwork** to predict any pattern from RNA-seq data of 11 different chromatin markers of HeLa cells.
- Research: Predicting transcription factor binding sites across cell types
  - Worked on a general tool that can **predict transcription factor binding sites accross cell types.**
  - Dealt with **large dataset** of approximately 900GB of data using linux tools and Python's data analysis suit.

Undergraduate Research Assistant

North American University **September, 2015 - present**
Lead student of Bioinformatics Lab at NAU. Closely followed 4 students and mentored them. Created open source bioinformatics curriculum with Open Source Society in GitHub.

Yeditepe University **August, 2014 - May, 2015**
Worked remotely as an genomic data scientist and investigated data from NCBI PubMed database. Utilized virtual docking software to determine the best possible inhibitor for specific molecule.

Texas Institute of Education and Research (TIBER) **September, 2014 - April, 2015**
Worked on drug development process and experimented on drug testing part. Was responsible for preparing agar solutions, bacteria cultures, and liquid/solid drug tests on those bacteria cultures.

Teaching Experience

North American University, Stafford, TX USA

Teaching Assistant **September 2015 - Present**
Co-taught 3 undergraduate level courses for computer science department. Prepared the lab sessions and extra sessions on Git/GitHub, Rapid Python Programming, and Ipython/Jupyter. Shared responsibility for lectures, exams, homework assignments, and grades.

- COMP 3317 Algorithms, Fall 2015, 2016.
- COMP 3320 Programming Languates, Fall 2016.
- COMP 3322 Software Engineering, Fall 2016.

Instructor **February - April 2015**
Taught Basic Python programming to 35 people including students, faculty, and staff of NAU, which was a first ever course taught purely by a student in NAU history. (Link)

Publications

Kocabas, F., **Ergin, E.K**. (2016). Identification of small molecule binding pocket for inhibition of Crimean-Congo hemorrhagic fever virus OTU protease. *Turkish Journal of Biology*, 40:239-249.

Projects

Open Source Bioinformatics Curriculum **June 2016**
4 year worth, open source source bioinformatics curriculum developed by my lab and contributed by open source society and other contributers around the world. (Link)

Scholar Development Center **February 2016**
Created a non-profit community based organization under the Raindrop Foundation to help Turkish undergraduate students around Texas to achieve their dreams in academia or industry.

Essential Algorithms **September 2014**
Put together a repository which contains algorithms from A Practical Approach to Computer Algorithms by Rod Stephens, Number Theory, and other useful algorithms written in Python. (Link)

Honors and Awards

North American University: Exceptional Merit Scholarship, 2012-2017

North American University: Graduated Magna Cum Laude, Honors in Computer Science, 2017

North American University: President's Honor Roll , 2015-2017

North American University: Outstanding Student of the Year, 2015

Extracurricular Activities

- NAU Kazakh Student Association, *Club Advisor* **September 2016 - Present**
- ISCB (International society of computational biology), *Member* **August, 2016 - Present**
- NAU Future Leaders Club, *Founder and Director* **April, 2015 - Present**
- Student Government, *VP of Unity and Social Justice* **September 2014 - Present**
- ACM (Association for Computing Machinery), *Member* **February 2013 - Present**
- NAU ACM, *Member* **September 2013 - Present**
- NAU ACM, *Vice President* **September 2015 - May 2016**
- NAU ACM, *Secretary* **February 2013 - September 2014**

Technical Skills

- **Languages:** Python(Pandas, Numpy, H5py, Tensorflow, Biopython, Scikit-learn), R(ggplot2, dplyr), Java, LaTeX, C/C++, Shell/Bash Scripting, Javascript, HTML, CSS
- **Database Systems:** SQL, MySQL, MongoDB
- **Operating Systems:** Unix/Linux, MacOS, Windows.

References

- Assistant Prof. Dr. Stirling L. Churchman, Genetics Department, Harvard Medical School, Boston, MA, USA, churchman@genetics.med.harvard.edu
- Associate Prof. Dr. Kemal Aydin, Computer Science Department, North American University, Stafford, TX, USA, kemal@na.edu
- Prof. Dr. Cengiz Zubeyir Altuntas, Director of Texas Institute of Biotechnology Education and Research, North American University, Houston, TX, USA cza@na.edu