

Mesih Veysi KILINC

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SUMMARY Researcher with 4 years of research assistantship, 2.5 years of computer science industry experience. Studying as a Ph.D. student in the field of computational biology.

EXPERIENCE **Research Assistant** *Jernigan Laboratory* 2021-01 – Present
Iowa State University, Ames (United States)

- **PLAST:** Protein language model homolog search tool performs faster and more accurate homolog search utilizing sequence embeddings. PLAST webser is available [here](#). Preprint is on [BioRxiv](#).
- Protein sequence alignment algorithm that incorporates neighboring double mutations.
- Contact prediction using PFAM families and DCA method using HPC clusters.
- Protein sequence annotation enrichment using homology.
- Bioinformatic environment preparation for HPC. Collected, compiled, and configured required packages.
- Modified BLAST tool source code to incorporate different substitution matrices.

Research Assistant 2018-02 – 2020-11
Gebze Technical University, Kocaeli (Turkey)

- **Nonlinear Control (my Master's thesis):** Position constrained smooth robust control of Euler Lagrange systems using nonlinear control theory. To read the full thesis, [please click here](#).
- **Reverse Delta Robot:** Designed hardware and device drivers for a motor control circuit that can be used by [the Zenom](#) software, real-time hardware-in-the-loop programming and simulation environment. [This device](#) used for the control of a reverse delta robot, results published in a national conference [2].
- **Symbolic Computation:** As symbolic computation course project, symbolic computation in the context of nonlinear control theory was investigated. Some of the papers implemented. To read the report [please click here](#).
- **Localization with UAV's:** For the project "Localization of wireless signal sources using UAV's", designed and produced RSSI measurement device and telemetry modem. Also helped programming, simulation and experiments of the project. Results published in [this paper](#) [3].

Teaching assistantship of:

- **Circuit and Electronics Laboratory:** Organized experiments. Graded the lab work and final.
- **System Programming:** Graded the homework assignments. Created a script to evaluate submitted code projects.
- **Logic Circuits Laboratory:** Organized experiments. Graded the lab work and final.

PREPRINTS 1. [Mesih Kilinc](#), Kejue Jia, Robert Jernigan. Protein Language Model Performs Efficient Homology Detection. BioRxiv 2022. [Link](#).

PUBLICATIONS 1. Samet Gul, Erkan Zergeroglu, Enver Tatlicioglu, [Mesih Veysi Kilinc](#). Desired model compensation-based position constrained control of robotic manipulators. Robotica 2021 [Link](#).

2. Mesih Veysi Kilinc, Erkan Zergeroglu. Cartesian Control of Reverse Delta Robot. National TOK Conference at Mugla, Turkey 2019. [Link](#).
3. Seyma Yucer, Furkan Tektas, Mesih Veysi Kilinc, Ilyas Kandemir, Hasari Celebi, Yakup Genc, Yusuf Sinan Akgul. RSSI-based Outdoor Localization with Single Unmanned Aerial Vehicle. IEEE WCNC 2019. [Link](#).
4. M. Deniz Aksulu, Mesih Kilinc, Osman Ceylan, Okan Emre Ozen, H. Bulent Yagci. On-Board Computer of TURKSAT-3USAT. 9th IAA Symposium on Small Satellites for Earth Observation, at Berlin, Germany 2013. [Link](#).

EDUCATION

Iowa State University (USA), 2021-01 – Present
Bioinformatics and Computational Biology (GPA 3.93/4.0)
Philosophy of Doctorate

- **Advisor:** Curtiss Distinguished Prof. Dr. Robert Jernigan

Gebze Technical University (Turkey), 2018-02 – 2020-08
Computer Engineering (GPA 3.86/4.0)
Master of Science

- **Thesis:** [Explained in the previous page](#).
- **Advisor:** Prof. Dr. Erkan Zergeroglu
- **Scientific Preparation:** Successfully finished 5 bachelor courses under scientific preparation to Computer Engineering which are: *Object Oriented Programming, Data Structures, Operating Systems, Computer Architecture, Discrete Mathematics*.

Istanbul Technical University (Turkey), 2011-09 – 2016-02
Electronics and Communication Engineering (GPA 2.71/4.0)
Bachelor of Science

- **Thesis:** Designed the software and hardware of a digital voice transceiver device.
- **Turksat 3USAT Satellite:** As a part of an internship at the RF laboratory at Istanbul Technical University, contributed to the development of mission computer software. Results published in [this paper](#) [1].

OPEN SOURCE CONTRIBUTIONS

Linux Kernel: Initial support for an SOC contributed to the Mainline Linux kernel. Linux Kernel Mailing List (LKML) entries can be found via [this link](#).
Zenom: Contributed to the development of [the Zenom](#) software, real-time hardware-in-the-loop programming and simulation environment.
MCC: A toy MIPS C compiler written for a graduate-level course at GTU. The project can be found via [this link](#).

OTHER EXPERIENCE

Otokar, Sakarya, Turkey 2016-09 – 2018-02
Software Engineer

- **Border Surveillance and Reconnaissance Vehicle:** Designed a user interface for military radar. (Qt, C++, Yocto)

CTech, Istanbul, Turkey, 2015-09 – 2016-09
Software Engineer

- **UAV Modem:** Developed software for a UAV modem. (C++, Linux Kernel, Device Drivers)
- **Linux Training:** Took Linux training about u-boot, boot process, rootfs, kernel.

**JOB-RELATED
SKILLS**

Programming: C, C++, Python, Numpy, Numba, Large Scale Data Processing, High Performance Computing
Technical: Object-oriented design, Simulation Software, Embedded systems, Electronic Circuit Design, Micro-controllers.