

DSI Updates - Q4, 2020

Research

Recent Calls

Vatat Call for PhD and Postdoc scholarships

We are happy to share that this year we had 3 winners:

VATAT scholarships for outstanding Postdoc students (1 out of 3 total nationwide!):

- Bracha Laufer Goldstein, the Faculty of Engineering

VATAT scholarship for outstanding Data Science doctoral students (2 out of 10 total nationwide!):

- Omer Kaspi, Department of Chemistry
- Lior Bracha, the Brain Research Center

Vatat Competitive Call

Recently, Bar-Ilan's response to the Vatat Competitive Call for additional funding to the data science centers in all universities was completed and submitted by the DSI. The response to the Call, with a 4-year NIS 58 million national budget for all universities (up to NIS 16 million per institution), consisted of six strong projects proposed by 15 faculty members (PIs and Co-PIs of the submitted proposal), spread across various departments and units (CS Department, Faculty of Engineering, Math. Department, Brain Research Center, Faculty of Life Science, Faculty of Medicine, Faculty of Law and Psychology Department). We are hoping to be informed soon that Bar-Ilan won significant support, which will allow additional collaborations, enlarging the BIU DS community and enhancing computing infrastructure.

ISF DS and Social Sciences

ISF opened this year, as part of its Personal Research Grants Program, a special track of Data Science in Social Sciences. BIU had 3 submissions from PIs in Engineering, Information Science, Criminology, Education and Law.

Upcoming Calls

Future DSI 2021 Calls

The DSI will soon come out with calls for research grants and event grants in the field of data science as well as scholarships for data science research students. We are inviting all the community members to take part and submit their proposals as the DSI Calls come out.

Open Relevant Calls (Non-DSI)

- [ISTRC Call for Scholarships 2021](#). FINAL SUBMISSION: February 01, 2021.

ELLIS

[ELLIS](#) (European Laboratory for Learning and Intelligent Systems) is a European grassroots initiative in AI with a focus on scientific excellence, innovation and societal impact. It aims to create a European AI Laboratory inspired by models such as EMBL (European Molecular Biology Laboratory) and the Vector Institute (Toronto).

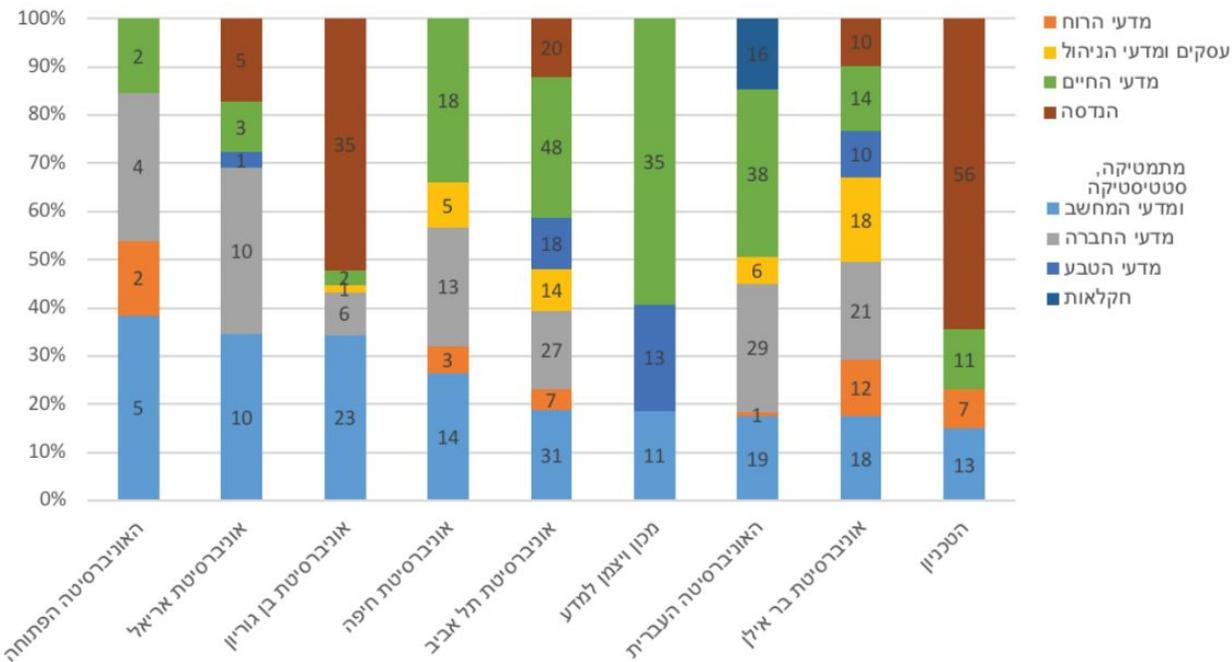
We plan to apply to have BIU a member university of ELLIS. In meantime, we encourage all DSI faculty members to [become an ELLIS member](#) (does not require BIU to be a member). Note that there are other benefits including an [ELLIS PhD Program](#). Existing Bar-Ilan members: Prof. Ido Dagan, Prof. Yoav Goldberg and Prof. Gal Chechik.

Vatat's Data Science Steering Committee Report

Vatat recently [shared a report](#) summarizing its Data Science Steering committee's findings. We would like to thank Prof. Gal Chechik for representing Bar-Ilan in the committee and for a work well done!

Part of the report was based on a survey of 685 faculty members in Israel. Bar-Ilan stands out with over 100 faculty members from Bar-Ilan who participated in the survey. Bar-Ilan is also clearly the most diverse set of faculty members spanning over a very wide range of faculties and departments.

גרף 5: שיעור חוקרי מדעי הנתונים לפי פקולטות במוסדות השונים



גרף 3: נושאי מחקר מתודולוגיים בקרב חוקרי הליבה לפי מוסד



Computing

- **IBM Cloud computing workshop series:** IBM offered to host a series of workshops on various cloud computing topics exclusively to BIU researchers and students.
 - The first workshop “**Containers101: Containers, Docker, Kubernetes**” will take place on Tue 26/1/2020 14:00-16:00. For more details, registration and future topics please see:
<http://dsi.biu.ac.il/ibm-cloud-computing-technical-workshop-series/>
- **Nvidia GPU programming workshop:** NVIDIA offered to host a technical workshop on GPU programming exclusively to BIU researchers and students. Workshop will take place on 9 March 2021 10-12am. Workshop will cover working with containers in a GPU environment, multi gpu programming, useful tools and more. For more details and registration please see: <http://dsi.biu.ac.il/event/nvidia-gpu-programming-workshop/>
- **R:** We are planning on opening a BIU community of R users aimed for faculty members and grad students who use R in their research. If interested, please send an email to Dr. Yogev Kivity - yogev.kivity@biu.ac.il.
- **Oracle POC:** As part of a POC with Oracle Cloud Platform they have offered us free credits to use their platform to be used in the next couple of months. Platform includes a wide range of possible server configurations including strong GPUs. If interested please send an email to oren.glickman@biu.ac.il.

Events

All relevant events are posted on the [DSI website](#).

Learning Club - Machine Learning Talk Series

The [BIU Learning club](#) is an ongoing seminar on machine learning that takes place on Sundays featuring select speakers from Israel and abroad.

Upcoming talk: On Size Generalization in Graph Neural Networks and Lottery Tickets

When: Time: Sunday Jan 10th, 2021 12:00 PM - 13:00 PM.

Speaker: Gilad Yehudai from Weizmann Institute of Science

<http://dsi.biu.ac.il/event/on-size-generalization-in-graph-neural-networks-and-lottery-tickets-learning-club-talk-by-gilad-yehudai/>

LawData Lab

[The LawData Lab](#) has a series of events during the year, including conferences and a lab seminar, in which a number of guest speakers will be hosted. Meetings are held at Zoom. **The next two events** are a conference, with the Israel Tech Policy Institute, about the use of **AI and algorithmic decision-making in governmental services** on **26.1.21**; and an international conference, with the the Jean Monnet Centre of Excellence on Digital Governance, about **digital governance during Covid-19** on **17-18.2.21**.

DSI Dinner

Unfortunately, during Covid we were not able to hold an on-campus community event. In the meantime, we would like to share the following story shared by Prof. Roy Gelbard (DS member, The School of Business Administration):

Dr. Anna Khalemsky, a PhD student of Roy has recently graduated (congrats Anna!). Her recent Molecular Informatics publication - "[Dynamic Classification for Materials-Informatics: Mining the Solar Cell Space](#)" by Abraham Yosipof, Anna Khalemsky, Roy Gelbard and Hanoch Senderowitz was a direct result of the institute's second dinner. Anna presented her work as a poster as well as Avi (Dr. Abraham Yosipof, at the time a Phd Student at Chemistry Dept. under supervision by Prof. Hanouch Senderowitz) in the dinner event. The joint exposure resulted in exchanging ideas and collaboration resulting in development of a new methodology and the joint publication.

Hopefully, we will be able to all meet face to face this spring and foster more collaborations!

Introduction to Data Science Workshop

The University of Haifa's Data Science Research Center offers a series of workshops for faculty members and research students who have no background in the field of data science. As part of our collaboration with the center, they have opened the workshops to DSI faculty members and their grand students. The workshop consists of 7-8 sessions (zoom), each session lasts 3 hours. To register for the workshop Introduction to Data Science without programming, fill in the following details: <https://forms.gle/qES5ayNur95TmqSK6>.

Please mark the date of the lecture that best suits you.

Community

DSI Members: Congratulations, Appointments, Awards and Grants

Appointments

- Congratulations to Prof. Liat Ayalon from the School of Social Work on her election to the Advisory Committee on Senior Citizens to the Minister Meirav Cohen from the Ministry of Social Equality and to the Advisory Committee to the World Health Organization on the long-term care of the elderly.
- Dr. Ariel Rosenfeld from the Department of Information Science was elected as Conference Chair of the 18th European Conference on Multi-Agent Systems.
- Congratulations to Prof. Sharon Gannot from the Faculty of Engineering on his elevation to IEEE Fellow.
- Congratulations to Dr. Ayelet Sela from the Faculty of Law on choosing her to be one of the 40 promising young people under the age of 40 in TheMarker.

Noteworthy Publication and Best Paper Awards

- Congratulations to Prof. Sharon Gannot from the Faculty of Engineering on the occasion of selecting his article as an "outstanding article" in the Journal of the Acoustical Society of America.
- Congratulations to Dr. Amir Bashan from the Department of Physics for publishing his article in Nature Metabolism.
- Congratulations to Dr. Milana Frenkel-Morgenstern on her recent Nucleic Acids Research paper: "COVID19 Drug Repository: text-mining the literature in search of putative COVID19 therapeutics".

Awards and Grants

- Congratulations to Prof. Hadar Dancing-Rosenberg and Prof. Ruth Halperin-Kaddari from the Faculty of Law on winning the EU scholarships.
- Congratulations to Prof. Hadar Dancing-Rosenberg for winning a research scholarship from the JDC.
- Congratulations to Dr. Adam Zaidel from the Brain Research Center for winning a grant from the National Science Foundation.
- Dr. Maayan Zhitomirsky-Geffet is a member of the European consortium that received funding of 2,000,000 Euro from Horizon 2020 for SwafS15-2019 for Citizen Scientists Investigating Cookies and App GDPR compliance, CSI-COP.

- Congratulations to Dr. Ittai Bar-Siman-Tov from the Faculty of Law and LawData Lab for winning a research grant from the Volkswagen Foundation for a study that will use data science tools to investigate the Effects of Covid-19 on the Functioning of Parliaments (together with Thomas Saalfeld & Olivier Rozenberg).
- Congratulations to Prof. Omry Koren for winning the prestigious ERC Consolidated research fund.

DSI Students: Congratulations, Scholarships and Awards

Scholarships

- Congratulations to Ofir Stegmann, a PhD student from the Faculty of Law and the Department of Mathematics on winning the President Scholarship for Excellence and Scientific Innovation for his proposal “The Knesset Network - Connectivity and Success”.
- Congratulations to Ayelet Peres, a PhD student from the Faculty of Engineering, for winning a doctoral scholarship for outstanding women in the high-tech fields.
- Congratulations to Yanai Elazar, a PhD student from the Department of Computer Science, on winning the prestigious Google PhD Fellowship for 2020.
- Congratulations to Bar Fargon Mizrahi, a PhD student from the Faculty of Law and LawData Lab, for winning the best paper award in the international conference on Human Sovereignty and Machine Efficiency in the Law in Hong Kong.

Research Spotlights

LawData Lab

[The BIU Innovation Lab for Law, Data-Science and Digital Ethics](#) at [Bar Ilan-University Faculty of Law](#) focuses on two primary tracks: (1) data-driven legal research using various data-science methods (e.g., ML, NLP, social network analysis); (2) normative and ethical analysis, focusing on legal and regulatory aspects of big data, data analytics and AI, and on ensuring proper data governance. The lab is based on an interdisciplinary collaboration between legal researchers from the BIU Faculty of Law and data scientists from the [BIU Data Science Institute](#) and other affiliated BIU departments. It is also based on an international collaboration as part of the [Jean Monnet Centre of Excellence on Digital Governance \(DIGOV\)](#). It additionally works with partners from technology companies and other industry and government actors. This year, Dr. Keren Yalin-Mor, who has a background in both law and computer science, joined the lab as lab manager.

Retorno

The first academic center of its kind for the study of the treatment, rehabilitation and prevention of addiction has been inaugurated at Bar-Ilan University. The center, headed by Prof. Natti Ronel from the Department of Criminology, is a joint venture of Bar-Ilan and the Retorno organization, which was founded 30 years ago by Rabbi Eitan Eckstein and operates in Beit Shemesh.

The new Bar-Ilan Retorno Center envisions two main directions: The first is the application of data science by the therapeutic community: as data from a variety of sources accumulates (e.g., weather, meal menu, community events), the community will be able to adapt treatment to the needs of the particular patient, as is done in personalized medicine, and to adapt itself to the needs of all patients. Data science will also allow for the creation of a growing body of research knowledge. The second research direction is to encourage Retorno employees to initiate and conduct research, as research physicians do at a university hospital. The Bar-Ilan Retorno Center will operate as an “impact center” in accordance with Bar-Ilan University’s preeminent research approach, which addresses the challenges of the future, integrating various fields of knowledge in multidisciplinary research.



Opening event at Retorno with Prof. Yaffa Zilbershats and Prof. Arie Zaban - see news article: <https://www.inn.co.il/news/450062>

Education

Among the goals of the DSI is to strengthen and extend the data science course and program offerings at Bar-Ilan. As part of this goal, we have initiated a committee headed by the Bar-Ilan Rector, with representatives from the core data science departments. The first goal of the committee is to increase, improve and consolidate the **applied data science** course and program offerings in STEM departments. In parallel to this initiative, the DSI is continuing its support in this academic year for including python as the programming course of choice in multiple STEM departments, including Chemistry, Brain Science, Math and Engineering.

DS Course List

We would like to remind you that we (the DSI) maintain a list of data science courses that are given at BIU, which can be easily explored by different category types. The interactive list is available on our website:

- <http://dsi.biu.ac.il/data-science-related-courses-at-bar-ilan-university/>

Open Positions

M.A., Ph.D. and Postdoc positions

- Open M.S. position to work on a funded project on "The Network Properties of Word Embeddings" under the supervision of Prof. Reuven Cohen and Dr. Simi Haber (Math) and Prof. Yoav Goldberg (CS).
- Open PhD and MSc positions at the Neural Interfaces lab lead by Prof. Izhar Bar-Gad:
 - *Identification of involuntary movements from video*: In a joint project with Schneider children's hospital they collected videos from Tourette syndrome patients displaying involuntary facial movements (motor tics).
 - *Research definition*: Unsupervised learning algorithms for identifying repeating behavioral motifs from the video.
 - *Required background*: Computer vision, Machine learning.
 - *Identification of animal behavior from a kinematic time series*: They record kinematic signals (accelerometer, gyroscope, magnetometer) from animals during natural behavior. This information is consequently used to decode the behavior and link it to brain activity.
 - *Research definition*: Unsupervised learning algorithms for identifying repeating behavioral motifs from the kinematic signals.



- *Required background:* Machine learning, Time series analysis.

For more details, please reach out to: Prof. Izhar Bar-Gad (Brain Research Center).

- Tomer Kalisky's research group is studying single-cell genomics in development, regeneration, and cancer using computational data analysis and machine learning algorithms. They are hiring graduate students for M.Sc. and Ph.D. positions. Qualifications: a strong background in engineering, physics, mathematics, computer science, or computational biology. Excellent undergraduate students are also encouraged to apply. For more details see: [single cell genomics lab](#) or contact Tomer.kalisky@biu.ac.il.

RA and Student positions

- An MA student with python/data-science skills for work on a funded project led by Dr. Rose Stamp in the English Literature & Linguistics department. The project will include analysis of sign language and motion capture data using machine learning and python scripts. 50% position. Work expected to result in academic publications. For details please contact Dr. Rose Stamp – rose.stamp@biu.ac.il.
- Prof. Sharon Gannot is looking for talented and committed PhD students and/or Postdoctoral trainees with strong background in statistical signal processing and machine learning. Experience in audio signal processing and high programming skills will be considered as an advantage. Suitable for advanced Computer Science or Engineering students. Students will be paid on an hourly basis, for application development as part of a study in the department of Psychology.

Academic Positions

- The Azrieli Faculty of Medicine in the Galilee, Bar-Ilan University [seeks outstanding candidates for several tenure track faculty positions](#) at the Lecturer/Senior Lecturer/Associate and Full Professor level in Population Health, including but not limited to: Data Science, Biostatistics, Health Economics and Behavioral Science.

Industry

Nvidia Deep Learning Institute (DLI) Ambassadors

Nvidia Deep Learning Institute (DLI) is looking for PhD students/academic faculty members who wish to be Ambassadors - certified on Nvidia courses, and who may run Nvidia courses free of charge at the universities (note – these courses are usually paid courses). Up until now there were 6 ambassadors from 3 universities in Israel, and the desire is to expand the local ambassador numbers. Running these courses at the university can be a great benefit for students and faculty – where courses vary from Fundamentals of DL to areas like NLP, Video Analytics, and more. Courses usually run as 1 day seminars.

For more information on Nvidia DLI and the Ambassador program see these two links below:

- <https://www.nvidia.com/en-us/deep-learning-ai/education/#fourTabs>
- https://developer.nvidia.com/dli/amb_program_benefits

Internship Opportunities

2021 Internships with the Facebook Core Data Science team

The Core Data Science team at Facebook Research is accepting applications for an intern position in London & Tel Aviv. They are looking for PhD students and postdocs with experience in one or more of the following fields: ML, Statistics, Computational Social Science, CS, Algorithmic Game Theory, Operations Research and adjacent areas. The internship programme consists of 12-16 weeks of full time paid work. Apply here:

- London - <https://www.facebook.com/careers/jobs/254100458921776/>
- Tel Aviv - <https://www.facebook.com/careers/jobs/360382118322817/>

[The Data Science Institute at Bar-Ilan University](#)

For further information or to unsubscribe from future updates - dsi@biu.ac.il