Data Science Center - Call for Research Proposals

The newly formed Data Science center at TAU will support both core research in data science and interdisciplinary research where data science is applied to research efforts on campus.

This call will focus on two tracks: 1. Interdisciplinary proposals 2. Core proposals. The calls are open to PIs at Tel Aviv University.

Background

Data science (DS) has an increasing role in many areas of science and society in general. This includes the ongoing revolution in which artificial intelligence (AI) and machine learning (ML) tools are gaining new capabilities. AI can now attain superhuman perception, for example, in some image analysis tasks, and in voice recognition. It is also able to generate new content; for example, music can be created based on interpreting existing segments. AI has also been used to make progress on important scientific problems such as predicting earthquakes, processing large collections of historical documents, understanding population dynamics, tracking the evolution of languages, mapping the brain, aiding with medical diagnosis, fast simulation of physical processes, and material design. Other areas of DS, like big data collection and statistical analysis have also gained importance in various fields, including particle physics, genetics, and medicine, among many others.

Application timeline and mechanism

Submission deadline is 8 March 2020 at 23:59 Israel time. Each proposal should be submitted as a single PDF file, and emailed to datascience@tauex.tau.ac.il.

Questions should also be sent to datascience@tauex.tau.ac.il.

1. Call for interdisciplinary proposals

The goal of this call is to foster new collaboration on-campus between scientists (from any discipline) with challenging DS problems and scientists from core-DS disciplines. This collaboration must be interdisciplinary in nature and meant to yield specific and impactful results (rather than focusing on methods development or theory). The scope is not limited otherwise.

Evaluation criteria:

1) A high-impact application of DS to a well-defined scientific domain
2) Scientific novelty in this domain
3) Algorithmic novelty or sufficient sophistication in the DS domain
4) Availability of relevant data and personnel that would allow the project to start without delays (although data collection/curation can be defined as part of the project, if it is in itself technically challenging and impactful)
5) Feasibility of the DS task
6) The track record of the proposing teams

Each funded proposal will be awarded a budget of up to 200K NIS per year for up to two years and the submitted projects should be likely to reach a successful outcome in this time frame. There will be a review point after 10 months, and funding for the second year will be conditioned on establishing sufficient progress.

The proposals should include:

1. A short abstract
2. A list of participants + short bio + 3 most relevant publications in the last 5 years for each
3. A statement of ethical compliance, if relevant
4. Required budget and its usage. The requested budget should be limited to 200K NIS per year. The awarded budget may be smaller.
5. A description of the scientific problem (1 page)
6. A description of the DS approach (1 page)
7. A description of the expected impact (0.5 page)

8. Sections 1,4,5,6 should point to relevant literature references

Additional information:

1. Any ethical aspects which require approval (such as collection of human information) are solely the responsibility of the submitters, and the submitters are required to state and ensure that all approvals will be obtained prior to the implementation of the grant.
2. Each proposal is required to have two TAU PIs from distinct disciplines as detailed above. Additional collaborators from TAU or outside TAU can also be included.

2. Call for Core Proposals

This call is focused on core research. Namely, research on theory and methods for data science. A key goal of the call is to encourage collaboration between PIs at TAU and thus proposals by two or more PIs will be preferred. The definition of data science for this call is wide, and can include any aspect of data collection, curation, cleaning, analyzing, modeling, evaluation, etc.

Evaluation criteria:

1) At least two PIs from TAU with synergistic collaboration on the proposed topic. Additional collaborators from TAU or outside TAU can also be included. In exceptional circumstances funding proposals by a single PI may be accepted (e.g., if they are hard to fund via existing funding mechanisms).
2) Novel and technically challenging contribution to core research in data science.
3) Potentially high impact research on core data science methods.
4) A track record of the proposing teams that matches the aspirations.
5) Potential for demonstrating progress within a one-year period.

Each funded proposal will be awarded a budget of up to 150K NIS per year for up to two years and the submitted projects should be likely to reach a successful outcome in this time frame. There will be a review point after 10 months, and funding for the second year will be conditioned on establishing sufficient progress.

The proposals should include:

1. A short abstract
2. A list of participants + short bio + 3 most relevant publications in the last 5 years for each
3. Required budget and its usage. The requested budget should be limited to 150K NIS per year. The awarded budget may be smaller
4. A description of the scientific problem (1 page)
5. A description of the proposed approach (1 page)
6. A description of the expected impact (0.5 page)
7. Sections 1,4,5,6 should point to relevant literature references