

Data Mining and Big Data Institute

ORT Braude College of Engineering, Karmiel



The mission of ORT Braude's data mining institute is to combine the expertise and research of the Software Engineering Department and to come up with novel and powerful tools for extracting knowledge and solving scientific, business and economic problems. The institute can provide value in many industries including Telecom, Bioinformatics, Medicine, Service providers, Law enforcement and others. Typical applications include Image processing, Electronic Medical Records (EMR), Noise handling, Clustering management, Machine learning, Text analysis and others.

institute activities

- **Medical image processing** (MRI analysis) for brain white matter and bone fracture status; in collaboration with Ziv Hospital
- **Study of the user activity** in the framework of a large network operator. Wireless sensor networks-related research is a hot topic. The main research topic comprise of energy-efficient routing, sensing, data fusion and communication algorithms. Other related topics include efficient clustering, mobile sensors, security and tracking issues
- **Optimization of technical servers schedule** in the framework of a service oriented company
- **Intelligent testing and analysis of CONCURENT software**, under a Bi-National CZECH-ISRAELI grant
- **Heuristic approaches** to search networks consistent with experimental data in the framework of the FP-grant
- **Many investigations** are performed in the field of cluster validation, graph clustering, pattern recognition, data fusion, voice-video processing and application of the machine learning methodology to various engineering problems
- **Bio-informatic research**
- Our approaches are able to provide reliable prediction of protein properties unavailable by other methods. Our experience in k-mismatch search can be applied to many fields dealing with complex search methods

Institute Staff

- Prof. Zeev Volkovich (institute head)
- Dr. Renata Avros
- Prof. Zeev Barzily
- Dr. Zakharia Frenkel
- Mr. Alex Frid
- Dr. Elena Kleiman
- Dr. Katerina Korenblat
- Mrs. Elena Kramer
- Mr. Dan Lamberg
- Dr. Nissan Lev-Tov

- Dr. Elena Ravve
- Dr. Avi Soffer
- Dr. Dvora Toledano Kitai
- Dr. Orly Yahalom

External Researchers

- Prof. Oleg Granichin (Sankt-Petersburg University)
- Prof. Valery Kirzner (Haifa University)
- Dr. Peter Soriano (Ort Braude College, retiree)



Ofek Eshkolot provides the means for implementing advanced technologies and research developed at ORT Braude College. The Ofek Eshkolot company directs staff towards applied research opportunities, creation of intellectual property (such as patents), and commercialization. Ofek Eshkolot bridges the gap between the business world and academia. The company is collaborating with Fraunhofer – a large European research organization – and invites additional local and worldwide industrial companies to participate in joint research.

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