

Dr. Roe E Ebnstein

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Education

2012-2018: **Ph.D.** Student at the Ohio State University (since AU 2012) GPA: 3.79
2012-2017: **M.Sc.** in Computer Science (The Ohio State University) GPA: 3.79
2010-2011: Elective graduate classes (The Open University of Israel) 90.6%
2004-2010: **B.Sc.** in Computer Science (The Open University of Israel) 86%, with honors
2008: **MCPD** – Enterprise Applications Developer
2003-2006: Software Technician (The computer school of the IDF – Mamram)

Active Research:

Interest areas – High Performance Computing, Databases, and AI.

Academic advisor: Prof. Gagan Agrawal.

HPC – Focusing on Scientific data exploration. Working under the supervision of Prof. Gagan Agrawal.

DB - Researching database engines for efficient query execution under the supervision of Prof. Arnab Nandi.

Publications:

Skeow: An Optimizer for Multi-Level Join Execution of Skewed and Distributed Array Data (In submission)

FDQ: Advance Analytics over Real Scientific Array Datasets (In submission)

BitJoin: Executing Distributed Range Based Joins(In submission)

DistriPlan: An Optimized Execution Engine for Geo-Distributed Scientific Data (SSDBM, 2017)

FluxQuery: An Execution Framework for Highly Interactive Query Workloads (SIGMOD, 2016)

DSDQuery DSI - Querying Scientific Data Repositories with Structured Operators (IEEE BigData, 2015)

Program Committee Member (Academic Papers Reviewer):

IEEE BigData 2018

IEEE BigData 2017

Professional Experience:

Programming Languages:

C, C++, C#, SQL, PL/SQL (Oracle DBA), Java

Professional training:

2009: Microsoft SQL Server 2008 for Oracle DBA, Microsoft Advanced Debugging

2007: IBM Linux Basics, Oracle Database 10g RAC

2006: Net LAB - .net 2.0 workshop for developers

2003-2007: Oracle 9i/10g DBA 1 - basics, DBA 3 - Performance, RAC, DBA 6 – DW

Special skills:

- Solutions architect and designer: experienced in planning, designing, managing and implementing large scale applications.
- Full control and understanding of databases (architecture, design and implementation).
- Oracle DBA – 8 years of professional experience.
- Wide knowledge and understanding of software engineering.
- Experienced in multi-tier/threaded architecture design and implementation.
- Wide and in-depth knowledge of storage topics, operating systems, networking and platform security.
- Extremely fast learner.
- Friendly, curious, enjoy teamwork with complete ability to work independently.

Languages: Hebrew, English

Employment details

Google (5/2017-8/2017, 8/2018-Current):

Team member (after being a summer intern) in the Procella team. As an intern in the Procella team, I was working on implementing and executing the TPC-H benchmark on Procella DB. The project included loading the TPC-H data to Google internal storage systems, adding to the Procella DB features which were not implemented before, but required for the TPC-H benchmark (such as multi-criteria in the join ON clause, broadcast joins for the internal storage files, etc.), and improve the Procella engine performance (gained improvement of 2x to 1,000x, depending on the query and the features it uses).

Currently I am a software engineer in the same team I had interned, developing and improving the Procella DB engine.

The Ohio State University (1/2015 – 5/2018):

Graduate Research Associate at the CSE (Computer Science and Engineering) department within the HPC (High Performance Computing) laboratory under the supervision of Prof. Agrawal.

The Ohio State University (8/2012 – 12/2014):

Graduate Research Associate at ACCAD (Advanced Computing Center for the Arts and Design).

Managing ACCAD computing environments, both hardware and software, involving Linux servers (RH,Centos), Windows servers and clients, render (grid) farm and Mac OSX workstations. Other major tasks involve **developing applications** for organizational and operations needs, automating processes and workflow, and hardening systems security.

Operations based software developed for ACCAD examples:

1. A privileged batch **remote command executer**.
2. **User management** (connects to the AD, and internal systems - multi-platform involvement): manages the whole workflow of user accounts creation while minimizing human involvement in the process – creating home directories, mail accounts, and permitting access to the facility.

Israeli Ministry Of Defense (MOD), Software Unit:

Period: 2001-2012 (the main technological unit of the intelligence corps since 2003)

Current Rank: Captain (in reserve)

Training: 2007 – Development leaders
2006 – IT Architect, Officers course – Intelligence officers
2005 – Software engineering, Computational graphics
2004 – Software design
2003 – IDF programmers course (Mamram)

Service main points:

2011-2012 **Data architects team leader**, Developer and Development leader.
Built software and designed database architecture for data centered applications, the largest of which is designed to ingest ~150GB a day and retain up to 1.5PB of data.

2008-2010 **Software and Database Architect**, Professional services for special needs,
Developer and **Development leader** (since 2007)

2007-2008 **Project manager**.
Received commendation from the unit commander (brigadier general) for solutions suggested and implemented for special needs.

2006 Officers course – Intelligence Officers course.

2003-2007 **DBA** and software designer. Expertise in **system engineering**.

2003 **IDF Programmers course** (Mamram – the computing school of IDF).