Amittai F. Aviram

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Education

Yale University. PhD, Computer Science.
Dissertation project: Deterministic Parallel OpenMP. Advisor: Bryan Ford.

Columbia University. BS, Computer Science.
Theory track. Russell C. Mills Award. Contributed to NLP faculty research project on Arabic morphology.

Yale University. PhD, English Language and Literature.

Columbia University. BA, English and Comparative Literature.

Coursera certificates in neural networks and deep learning (2021) and machine learning (2016).

Current Research

Labor-Time Accounting
Developing an economic model based on the theory of labor-time accounting — with the group Initiative für Demokratische Arbeitzeitrechnung (IDA) centered in Berlin. IDA's work includes a working Web application to support labor-time accounting, as well as theoretical analyses. We are planning to develop a computer simulation of the labor-time-based model.

Selected Publications

Aviram, Amittai. *Computer Systems: Behind the Veil*. Cognella, 2025. An undergraduate textbook.

Murzaku, John,Tyler Osborne, Amittai Aviram, and Owen Rambow. 2023. Towards Generative Event Factuality Prediction. In *Findings of the Association for Computational Linguistics: ACL 2023*.

Aviram, Amittai, and Bryan Ford. 2011. Deterministic OpenMP for Race-Free Parallelism. In *3rd USENIX Workshop on Hot Topics in Parallelism (HotPar 11)*.

Aviram, Amittai, Sen Hu, Bryan Ford, and Ramakrishna Gummadi. 2010. Determinating Timing Channels in Compute Clouds. In *Proceedings of the 2010 ACM Workshop on Cloud Computing Security (CCSW '10)*.

Aviram, Amittai, and Bryan Ford. DOMP: Deterministic OpenMP. 2010. poster Session. *9th USENIX Symposium on Operating System Design and Implementation (OSDI '10)*.

Aviram, Amittai, Shu-Chun Weng, Sen Hu, and Bryan Ford. 2010. Efficient System-Enforced Deterministic Parallelism. In *Proceedings of the 9th USENIX Symposium on Operating System Design and Implementation (OSDI '10)*. (Best paper award.)

See my Google Scholar profile for a more complete list:
https://scholar.google.com/citations?hl=en&user=2pYjxo0AAAAJ

Teaching Experience

Boston College. Chestnut Hill, MA. Visiting Associate Professor. January 2021 – Present.

- Undergraduate teaching, including Computer Systems (CSCI2271), Computer Science II (CSCI 1102), and Compilers (CSCI3367).
- Supervising BC undergraduates in research through independent study and a senior honors thesis.

Boston University. Boston, MA. Adjunct Instructor. 2020.

- **Parallel Computing and Programming** (CS591A1). Fall 2020. Introduction to concurrent programming and systems, including distributed and shared memory, synchronization, parallel algorithms, scalability analysis, and programming techniques such as threads, OpenMP, CUDA, and message passing, for advanced undergraduate and master's-level students.

Wentworth Institute of Technology. Boston, MA. Adjunct Instructor. 2016 – 2017.

- **Programming Paradigms and Systems** (CPSC 7050). Oct 2016 and Oct 2017. Various languages. All online. Masters level. Developed syllabus, online lectures, assignments, exams, and all course materials. Intensive, project-driven, 7-week course, introducing students to four language paradigms, as well as parallel, distributed, real-time, and embedded systems.
- **Computer Science I** (CPSC 1000) May 2017. Java. In person. Undergraduate. Introduction to programming, assuming no prior background.

Yale University. New Haven, CT. Teaching Fellow. 2008 – 2010.

- **Introduction to Programming** (CPSC 112) Java. Undergraduate. Under Drew McDermott. Basic Assumed no prior background.
- **Introduction to Computer Science** (CPSC 201). Haskell. Undergraduate. Under Paul Hudak. Gateway to the CS major—introduction to CS concepts.

University of South Carolina. Columbia, SC Associate Professor, English & Comparative Literature (Previous Career).

- Developed and taught a wide range of courses from basic undergraduate to PhD level.
- Tenured (1994). Fulbright Senior Scholar, Bamberg, Germany (2000-2001). Book: *Telling Rhythm: Body and Meaning in Poetry* (1994), various journal articles, poems.

Software Industry Experience

Wayfair. Boston, MA. Software Engineer II.
April 2019 – October 2020. Sales & Operations Planning Team, implementing logistics analysis and modeling. Full-stack development of a distributed versioned data access and manipulation platform (Python, TypeScript/React). Completed a project to calculate supply chain estimated times of arrival using multiple data sources in parallel (object-oriented PHP, SQL).

Medtronic. Boston, MA. Senior Software Engineer.
September 2016 – April 2019. Surgical robotic system research and development lab. Created Simulink real-time logging tools with MATLAB programs that generate C++ code at build time. Collaborated on system integration diagnostic tools and code generation for interprocess communication. (C++, C, MATLAB, Simulink, BASH, CMake, Protocol Buffers, FlatBuffers).

MathWorks. Natick, MA. Senior Software Engineer.
September 2012 – May 2016. Code Generation Intermediate Representation Team, supporting code generation produ cts. Developed tools for ensuring safety and correctness of generated code. (C++, Perl)

Summer internships at Google (New York, NY), Ellington Management Group (Old Greenwich, CT), and Microsoft Research (Redmond, WA).
2006 – 2011. Various aspects of systems programming and testing.