206-419-3945
www.mit.edu/~florinc
florin.chelaru@gmail.com
florinchelaru

FLORIN CHELARU

Last updated: January 2016

EDUCATION

University of Maryland, College Park — Jan 2011 – May 2015
Doctor of Philosophy, *Computer Science*
Cumulative GPA: 3.89/4.0
Advisor: Dr. Héctor Corrada Bravo
Dissertation: Epiviz: interactive visual analytics software for genomics
Relevant coursework: Machine Learning (H. C. Bravo); Information Visualization (B. Shneiderman); Neural Modeling (J. Reggia); Computational Linguistics (K. H. Seitz); Computational Genomics (C. Kingsford); Functional Genomics (H. C. Bravo); Computer Vision (Y. Aloimonos).

University Al. I. Cuza, Iași, Romania — Sep 2004 – Jun 2008
Bachelor of Science, Computer Science
Cumulative GPA: 9.45/10.0
Class Rank: 8 of 176
Advisor: Dr. Liviu Ciortuz
Bachelor's dissertation: Artificial Intelligence in Computer Go
Relevant coursework: Machine Learning; Bioinformatics; Neural Modeling; Evolutionary Algorithms; Artificial Intelligence; Graph Theory; Algorithm Design; Probabilities and Statistics; Calculability, Decidability and Complexity; Cryptography; Antivirus Technologies; Software Engineering and Design Patterns; C/C++; C# and .NET Framework; Java; Relational Databases and SQL.

EXPERIENCE

MIT Computer Science and Artificial Intelligence Laboratory — August 2015 – present
Postdoctoral Associate

University of Maryland Center for Bioinformatics and Computational Biology — Jan 2011 – Jun 2015
Graduate Research Assistant
Designed and developed software to aid in the analysis and exploration of *Big Data*, in particular high throughput sequencing – using *Machine Learning* and *Visualization* to comprehend relationships and correlations between epigenetic mechanisms and gene regulation.

Rocket Fuel Inc., Artificial Intelligence Team — 2014, Jun–Sep; 2013, Jun–Sep
Graduate Internship
Designed and implemented *Machine Learning* probabilistic models and *Visualization* infrastructure for *Big Data* analysis, in particular for *Ad Click Prediction*.

Facebook Inc., Spam Detection Team (Site Integrity) — 2012, May–Aug
Graduate Internship
Designed and implemented *Machine Learning* models for the detection of *spam users* and *content*.

University of Maryland Department of Computer Science — Jan 2011 – Dec 2012
Graduate Teaching Assistant
CMSC702 – Computational Systems Biology (Instructor: Dr. Hector Corrada)
CMSC433 – Parallelism and Multithreading in Java (Instructors: Dr. Adam Porter, Dr. Tom Yeh)
CMSC420 – Data Structures (Instructor: Professor Hanan Samet)

Microsoft Inc., Office Team (Lync Server) — Jun 2010 – Jan 2011
Software Design Engineer
Designed database optimization software for improving the performance of the Lync Communication Server.

Microsoft Inc., Bing Team (Search Domain Relevance) — Sep 2008 – Jun 2010
Software Design Engineer in Test
Designed and developed software for measuring the quality of web search results. Specifically, created Machine Learning models for improving the relevance of the content of text snippets.

Code40 Inc. Romania 2007,
Undergraduate Internship Jul–Aug

Designed and implemented components of a web server application for micro-loans: caching, back-end data validation, error handling.

PUBLICATIONS

F. Chelaru*, J. N. Paulson and H. C. Bravo, "Metaviz: Integrative visualization for metagenomics". *In preparation*.

F. Chelaru* and H. C. Bravo, "Epiviz: a view inside the design of an integrated visual analysis software for genomics". BMC Bioinformatics, 16 Suppl 11, S4. http://doi.org/10.1186/1471-2105-16-S11-S4

F. Chelaru*, L. Smith, N. Goldstein, and H. C. Bravo, "Epiviz: interactive visual analytics for functional genomics data," *Nature Methods*, vol. 11, no. 9, pp. 938–940, Aug. 2014. http://dx.doi.org/10.1038/nmeth.3038

H. C. Bravo*, **F. Chelaru**, L. Smith and N. Goldstein, "epivizr: R Interface to epiviz web app," Bioconductor package: 1.4.2.

F. Chelaru* and L. Ciortuz, "Combining old-fashioned computer go with monte carlo go," in *Proceedings of the 2008 10th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing, SYNASC 2008*, 2008, pp. 216–222. http://dx.doi.org/10.1109/SYNASC.2008.77

S. Iftene* and **F. Chelaru**, "The general Chinese remainder theorem," in *International Scientific Journal of Computing*, vol. 6, issue 1, pp. 44-50, 2007. http://www.computingonline.net/archieve/IJC_2007_06_1_05.pdf

OPEN-SOURCE SOFTWARE

Epiviz (epiviz.cbcb.umd.edu)
epiviz, epiviz.github.io
A web visualization tool used to aid in the analysis and exploration of large functional genomics data.
Technologies used: HTML5, JavaScript (JQuery, d3.js, WebSockets), PHP, MySQL, R/Bioconductor, Python.

IsoCreator (iso-creator-cs.sourceforge.net), released February 2007
A .NET app used to create ISO 9660 Joliet CD/DVD images from folders on the local machine. It currently has ~20K downloads per month.
Technologies used: C#, .NET Framework 2.0.

TECHNICAL SKILLS

OO Low-level Languages: Java (J2EE); Microsoft .NET (C# and the CLR); C; C++.
OO and Functional High-level Languages: Python; R/Bioconductor; HTML5 JavaScript, PHP.
Databases: SQL (MySQL, Microsoft SQL Server); Apache Hive (Hadoop).

LANGUAGES

Romanian – native, English – fluent.

REFERENCES

Dr. Héctor Corrada Bravo
Department of Computer Science, Biomolecular Sciences Building, University of Maryland
College Park, MD 20742
hcorrada@umiacs.umd.edu 301-405-2481

Dr. Mihai Pop
Department of Computer Science, Biomolecular Sciences Building, University of Maryland
College Park, MD 20742
mpop@umiacs.umd.edu 301-405-7245

Dr. Jack van Ryswyck
Artificial Intelligence, Rocket Fuel Inc., 1900 Seaport Blvd
Redwood City, CA 94063
javhar@rocketfuelinc.com

Dr. Michael Benisch
Artificial Intelligence, Rocket Fuel Inc., 1900 Seaport Blvd
Redwood City, CA 94063
mbenisch@rocketfuelinc.com