




FLORIN CHELARU

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Last updated: October 2016

EDUCATION	University of Maryland , College Park <i>Doctor of Philosophy, Computer Science</i> 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).	Jan 2011 – May 2015
	University Al. I. Cuza , Iași, Romania <i>Bachelor of Science, Computer Science</i> 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.	Sep 2004 – Jun 2008
EXPERIENCE	Twinfog Inc. – https://www.twinfog.com <i>Co-Founder & CTO</i> Working on designing and implementing the Twinfog cross platform mobile app using Xamarin (C# .NET) for the UI, and ASP.NET MVC, SQL Server and Azure Cloud Services for the back-end.	July 2016 – present
	MIT Computer Science and Artificial Intelligence Laboratory <i>Postdoctoral Associate</i> Expanded on the work done for my Ph.D. by designing a series of open-source visualization libraries for <i>genetic variants</i> analysis. Base library code available here: https://github.com/florin-chelaru/vis.js .	August 2015 – June 2016
	University of Maryland Center for Bioinformatics and Computational Biology <i>Graduate Research Assistant</i> Architected and implemented EpiViz (epiviz.cbcb.umd.edu ) , an open-source visualization tool used in the <i>Genomic Research</i> community for the analysis, exploration, and extracting insights from <i>genomic</i> and <i>epigenomic</i> data. Code available here: https://github.com/epiviz .	Jan 2011 – Jun 2015
	Rocket Fuel Inc., Artificial Intelligence Team <i>Software Engineer</i> Designed and implemented <i>Machine Learning</i> probabilistic models and <i>Visualization</i> infrastructure for <i>Big Data</i> analysis, in particular for <i>Ad Click Prediction</i> .	2014, Jun–Sep 2013, Jun–Sep
	Facebook Inc., Spam Detection Team (Site Integrity) <i>Software Engineer</i> Designed and implemented <i>Machine Learning</i> models for the detection of <i>spam users</i> and <i>content</i> .	2012, May–Aug

University of Maryland Department of Computer Science	Jan 2011
<i>Graduate Teaching Assistant</i>	–
CMSC702 – Computational Systems Biology (Instructor: Dr. Hector Corrada)	Dec 2012
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
<i>Software Engineer</i>	–
Designed database optimization software for improving the performance of the Lync Communication Server.	Jan 2011
Microsoft Inc., Bing Team (Search Domain Relevance)	Sep 2008
<i>Software Engineer in Test</i>	–
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.	Jun 2010
Code40 Inc. Romania	2007,
<i>Undergraduate Internship</i>	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, “epiviz: 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 **Epiviz** (epiviz.cbcb.umd.edu)

SOFTWARE  [epiviz](https://github.com/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 OO Low-level Languages: Java (J2EE); Microsoft .NET (C# and the CLR); C; C++.

SKILLS 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

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