

# FLORIN CHELARU

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EDUCATION	<b>University of Maryland</b> , College Park	Jan 2011
	<i>Doctor of Philosophy, <a href="#">Computer Science</a></i>	–
	Advisor: Dr. Héctor Corrada Bravo	May 2015
	Dissertation: <a href="#">Epiviz: interactive visual analytics software for genomics</a>	
	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).	
	<b>University Al. I. Cuza</b> , Iași, Romania	Sep 2004
	<i>Bachelor of Science, <a href="#">Computer Science</a></i>	–
	Class Rank: 8 of 176	Jun 2008
	Advisor: Dr. Liviu Ciortuz	
	Bachelor's dissertation: <a href="#">Artificial Intelligence in Computer Go</a>	
	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.	
WORK EXPERIENCE	<b>Google Inc., Cloud Monitoring</b>	Feb 2017
	<i>Senior Software Engineer; Tech Lead Manager</i>	–
	Worked on Google Cloud Monitoring, an embedded observability suite designed to monitor, troubleshoot, and improve cloud infrastructure, software, and application performance.	Jan 2022
	<b>Twinfog Inc.</b> <a href="http://angel.co/twinfog">angel.co/twinfog</a>	July 2016
	<i>Co-Founder &amp; CTO</i>	–
	Created Twinfog, a cross platform mobile app for location-based social interaction. Used Xamarin (C# .NET) for the UI, and ASP.NET MVC, SQL Server and Azure Cloud Services. Demo video: <a href="https://youtu.be/oINy4qSrMiM">youtu.be/oINy4qSrMiM</a>	December 2017
	<b>MIT Computer Science and Artificial Intelligence Laboratory</b>	August 2015
	<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 at: <a href="https://github.com/florin-chelaru/vis.js">github.com/florin-chelaru/vis.js</a> .	June 2016
	<b>University of Maryland Center for Bioinformatics and Computational Biology</b>	Jan 2011
	<i>Graduate Research Assistant</i>	–
	Architected and implemented Epiviz ( <a href="http://epiviz.org">epiviz.org</a> ), 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 at: <a href="https://github.com/epiviz">github.com/epiviz</a> .	Jun 2015
	<b>Rocket Fuel Inc., Artificial Intelligence Team</b>	2014,
	<i>Software Engineer</i>	Jun–Sep
	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> .	2013, Jun–Sep
	<b>Facebook Inc., Spam Detection Team (Site Integrity)</b>	2012,
	<i>Software Engineer</i>	May–Aug
	Designed and implemented <i>Machine Learning</i> models for the detection of <i>spam users</i> and <i>content</i> .	

<b>University of Maryland Department of Computer Science</b>	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)	
<b>Microsoft Inc., Office Team (Lync Server)</b>	Jun 2010
<i>Software Engineer</i>	—
Designed database optimization software for improving the performance of the Lync Communication Server.	Jan 2011
<b>Microsoft Inc., Bing Team (Search Domain Relevance)</b>	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
<b>Code40 Inc. Romania</b>	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** J. Wagner\*, **F. Chelaru\***, J. Kancherla\*, J. N. Paulson\*, A. Zhang, V. Felix, A. Mahurkar, N. Elmqvist, H. C. Bravo, “Metaviz: interactive statistical and visual analysis of metagenomic data”. *Nucleic Acids Research*, gky136, Feb. 2018 <https://doi.org/10.1093/nar/gky136>

**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](http://www.computingonline.net/archieve/IJC_2007_06_1_05.pdf)

**SOFTWARE PROJECTS** **Music with Ms. Johnson** ([vioara-cu-susanna.ro](http://vioara-cu-susanna.ro)) — Jan 2023  
[github.com/florin-chelaru/music-with-susanna](https://github.com/florin-chelaru/music-with-susanna)

The professional presentation page of Susanna Johnson, violin, viola and general music teacher.  
*TypeScript, ReactJS, Material UI*

**Epiviz** ([epiviz.org](http://epiviz.org)) — Aug 2014  
[github.com/epiviz](https://github.com/epiviz), [epiviz.github.io](http://epiviz.github.io)

A web visualization tool used to aid in the analysis and exploration of large functional genomics data.  
*JavaScript (jQuery, d3.js, WebSockets), PHP, MySQL, R/Bioconductor, Python*

**Epivizr Bioconductor R Package** — Aug 2014  
[github.com/epiviz/epivizr](https://github.com/epiviz/epivizr), [epiviz.github.io](http://epiviz.github.io)

An R package that provides WebSocket communication to the Epiviz web app for interactive visualization of genomic data. Objects in R/bioc interactive sessions can be displayed in genome browser tracks or plots to be explored by navigation through genomic regions.

*Authors: H. C. Bravo\*, **F. Chelaru**, L. Smith, N. Goldstein*

**IsoCreator** ([iso-creator-cs.sourceforge.net](http://iso-creator-cs.sourceforge.net)) — Feb 2007

A .NET app used to create ISO 9660 Joliet CD/DVD images from folders on the local machine.  
*C#, .NET Framework 2.0*

**TECHNICAL  
SKILLS**

Cloud & Distributed Systems: **Kubernetes**; worked with it extensively while at Google Cloud  
OO Low-level Languages: Java (J2EE); Microsoft .NET (C# and the CLR); C; C++.  
OO and Functional High-level Languages: Python; R/Bioconductor; TypeScript, PHP.  
Databases: Distributed Databases (Mongo DB, Google Cloud Spanner), Traditional Databases (MySQL, Microsoft SQL Server)

**LANGUAGES**

Romanian – native, English – fluent, German – B1 level.

**REFERENCES**

**Dr. Héctor Corrada Bravo**

Senior Principal Scientist at Genentech  
[hcorrada@gmail.com](mailto:hcorrada@gmail.com)  
[hcbravo.org](http://hcbravo.org)

**Dr. Mihai Pop**

Professor, Department of Computer Science, University of Maryland, College Park  
Director, University of Maryland Institute for Advanced Computer Studies (UMIACS)  
[mpop@umiacs.umd.edu](mailto:mpop@umiacs.umd.edu)  
[pop-lab.org](http://pop-lab.org)

**Dr. Jack van Ryswyck**

Senior Research Scientist at Snowflake  
[linkedin.com/in/jack-van-ryswyck-532a205](https://www.linkedin.com/in/jack-van-ryswyck-532a205)

**Dr. Michael Benisch**

VP of Engineering at Woven Planet  
[linkedin.com/in/michael-benisch-19055530](https://www.linkedin.com/in/michael-benisch-19055530)