

Michael Vaganov (michael.vaganov@gmail.com)

TL;DR - motivated programmer who loves teaching. See <https://tinyurl.com/mvGitRes> for details

Portfolio

- Projects: <http://www.codegiraffe.com/portfolio/>
- Code Samples: <https://github.com/mvaganov/>
- LinkedIn: <https://www.linkedin.com/in/mvaganov/> (including recommendations and endorsements)

Notable Personal Software Projects

Suffrag Ex Machina

A machine-learning engine built in C# to test an experimental *ensemble learning* technique (elects using ranked-choice voting). Independent study, built from scratch as a learning exercise, inspired by a former student. Notably includes optimized-matrix-math and "secret sauce" training optimizations (conservatively a ~2x improvement over optimal-learning-rate alone).

Ethos

A [prototype for a web-based assessment system](#) designed to provoke personality development. Still evolving, based on years of personal reflection, religious study, and leadership.

Impetus

An experimental suite of tools and prototypes to build a-game-about-Project-Management. This project is a key manifestation from [my own personal vision of the future](#). I also call this "my dragon".

Skills

- Computer Wizard: using technology to do things most people don't understand
- Growth Mindset: inspired by limits, positive about change, unafraid of ugly details, unbound by labels
- Magical-CS-Teacher-Aura: broken assignments suddenly work when I show up to look at them
- **20+ years Programming**: hobbyist, game programmer, educator, consultant
- Programming Languages: C, C++, C#, Java, JavaScript, Python
- Software Domains: games, productivity & automation, UI/UX, multi-platform, Client/Server, VR, Web, ANN
- **15+ years Teaching Computer Science**: ages 7 to 40+, as a tutor, undergrad professor, and high-school teacher

Employment

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Teaching @DeVry	FFFFFFFFFFFFFFFFFFFFFFFFFFFF	pppp	ppp`								
Sacred Heart Prep								FFFFFFFFFFFFFFFFFFFFFFFF			
Other Teaching				v v v`	v v p v`	v v v v v p p p p p p p		v v v v v v v v v v v v v v	v v v v v		
"my dragon"		v`	v`	v`	v v v v v F p p p p p p p p p p	v v v`	v` v v`			v` v`	

Key: (F) Full-time (40+ hrs/wk), (p) Part-time (~20 hrs/wk), (v) Volunteer (~10 hrs/wk)

[Computer Science Teacher at Sacred Heart Prep](#)

(August 2015 to June 2019) Faculty member at an exclusive private school

- Taught computer science, with a curriculum designed to motivate (ask me about hacking)
- Wrote software widely used by school to manage day-to-day schedule notification

Code Coach at theCoderSchool

(September 2014 to August 2015) Elite Computer Science education for youth (between age 7 and 17) in the Silicon Valley

- Custom-built simple and engaging tutorial content for Computer Science and electronic art
- Subjects: Unity3D, C and C++, Java, Blender, 2D and 3D math, Game Design, Project Management

Self Employed Programmer, Entrepreneur

(December 2012 to Present) Personal startup project, and consulting services (see [full resume](#) for details)

Professor at DeVry University (Silicon Valley Campuses)

(March 2006 to December 2014) Professor of Games and Simulation Programming (GSP), a Computer-Science-like Bachelors of Science degree program, with emphasis on game development

- Rated highly in students evaluations (consistently 3.5+ out of 4)
- Managed 30+ Senior Project teams (16 week project, 2 to 5 programmers /team)

Software Engineer at LimLife

(November 2006 to April 2008) Developer responsible for end-to-end network-aware mobile application development

- Senior-level engineer: product development, build-systems and automation, client/server

Software Engineer at Infospace Mobile Games

(December 2004 to November 2006) Developer of mobile applications with emphasis on client/server interaction.

- Senior-level engineer: product development, framework, R&D, client/server

Porting Engineer at Atlas Mobile (later purchased by Infospace)

(June 2004 to Dec 2004) Very productive first-6-months-of-professional-software-development.

- Client side QA developer, primarily tasked with porting and bug fixing

Education

Keller Graduate School of Management

(September 2006 to 2010) Masters of Project Management

DeVry University

(July 2001 to October 2004) BS of Computer Information Systems

Other

Volunteering

- Computer Science Teachers Association: Silicon Valley CSTA chapter President since 2018 (Jan. 2017 to Present)
- Unityversity: nearly weekly classes teaching Unity and VR (Aug. 2016 to Present)
- Citizen Schools: public school outreach (Feb. to Apr. 2014, Oct. & Nov 2013)
- Coder Dojo Silicon Valley: conference-style tech meetups for kids (Sep. 2013 to 2017)

- Guest Lecturer at various universities in Uganda (Oct. & Nov. 2012)

Hobbies

- Hiking, Biking, Rock Climbing, Fencing
- Software Side-projects, Game Jams, and Hackathons (samples at <http://codegiraffe.com>)

Personal Programming Axioms

- The price we must pay for being wizards is Understanding. It's a price that must be paid.
- The best programmer writes the most Readable code. Speed is for the compiler.
- The best code will survive long after a programmer leaves it.
- Single Point of Truth: One complexity, One bug, One change.
- Code explicit functionality rather than side effects, and `/** document it */`
- Comments are good, code that describes itself is better.
- Think about optimization now, but do the actual optimization later.
- Just Prototype. And don't expect another shot at it, so make it good!
- Refactor, Sooner rather than later; clean code grows into powerful code.
- Disciplined, results oriented software development is always in style.
- How most production code should be judged (in order):
 - Functionality: intended results are produced (with constraints in mind)
 - Survivability: useable again elsewhere (maintainable/readable/modular)
 - Robustness: stability with a wide range of input (no bugs)
 - Resource Use: resources used conservatively (Big-O, memory, threads, ...)
 - Everything Else: elegance/robust-unit-tests/optimal-efficiency/...
- The Unix way feels right (<http://www.faqs.org/docs/artu/ch01s06.html>)

Other Credo

- Persistence (iteration) is disproportionately important to success. (So, iterate. Faster.)
- Rules are for people who don't know any better; Rules are important, but Understanding sets you free.
- Luck is where preparation meets random opportunity, which is happening constantly.
- To make the next best thing, the current best thing must be mundane.
- A spoonful of test dissolves a pound of design.
- Without clear goals we are wasting people's time, and we are made of time.
- Do not fear complexity, simplify it.
- more at: <http://codegiraffe.com/quotes.txt>