Michael Barnathan

Founder at Polymath Foundation

Washington D.C. Metro Area, MD, US

Educational and Medical Visionary, CS Ph. D., Former Googler

Biography

"Education and medicine are my purposes because they are the two foundations for the attainment of human potential. The instrument of that potential is the living, thinking human mind." Those two sentences represent 90% of my motivation. While I'm an extremely adept programmer, data scientist, and general computer scientist by background and employment, these are skills to be applied to a purpose, not ends in and of themselves. My skills include Data Mining / Machine Learning, Computer-Assisted Diagnosis, Artificial Intelligence, Teaching, Neurology, Data Structures, and world-class Software Development. I'm also an excellent presenter, thanks in no small part to teaching and tutoring college and graduate level computer science for 5 years. My lecture style is intuition-based: I excel at reducing complex topics to simple intuitive steps, then supplying the formalism once the student has entirely grasped the concept at an intuitive level (when it is then easy to acquire as a language for phenomena which the student already understands). I also aim to inspire the audience to love the subject. I've had a rather varied career in a relatively short period of time. I've performed in concerts, composed music, taught graduate students (as an adjunct professor), turned a $40 EEG toy into a brain-computer interface, created games, sold photos, learned how to do polymerase chain reaction, and set up the "LAMP" server which powers all (50+) of my websites (and email, and DNS...) from scratch. I've started changing high school STEM education by going school to school and sharing my vision. Outside of education, my passion is medicine, particularly medical AI. I completed a Ph. D. in Computer and Information Sciences at Temple University, applying machine learning within medical diagnostics, then started a diagnostic company. I'm an extremely proficient programmer, having started at 7 (favorite languages: Java, Matlab, Perl), and more generally have a very wide command of the computer science field as a whole. I'm extremely enthusiastic about learning new skills, and often do so quite rapidly. My adaptability stems from a philosophy of "boundless knowledge": I'm constantly involved in a plethora of intellectual activities. Depth and breadth are synergistic! More importantly, *it can be taught*. In fact, I've seen this work so well that I believe I can spark a renaissance by starting up a boundless educational model, which I'm doing: Project Polymath.

Availability

Keynote, Moderator, Panelist, Workshop, Host/MC, Corporate Training

Industry Expertise

Medical Devices, Education/Learning, Computer Software

Areas of Expertise

Technology, Education, Medicine

Affiliations

Google Alumni Network, Monmouth University School of Science Advisory Council, IEEE

Sample Talks

Recognizing and Nurturing Technical Intuition
The popularity of the phrase ?think like a programmer? emphasizes the fact that there is something subtly different about the mode of thinking employed by successful computer scientists. Drawing from a lifetime of experience as a student, educator, and software engineer, in this talk I present this abstract notion as a form of intuitive problem solving which can be both recognized and taught.

Event Appearances

Recognizing and Nurturing Technical Intuition
CS4HS

Building a Brain Computer Interface Using A $30 Toy (workshop given to high school freshmen)
CAPE

Building Software at Google Scale
Google NYC Tech Talks

Replacing the Radiologist: How Artificial Intelligence is Transforming Medicine
Jersey Coast ACM Regional Meeting

Education

Temple University
M.S. Computer and Information Sciences

Monmouth University
BS Computer Science, math minor

Temple University
Ph. D. Computer and Information Sciences

Accomplishments

Highest GPA, Monmouth University Class of 2006
I received a $5000 award for graduating at the top of my college class.

Google Bonuses
I received 9 extra performance bonuses during my two years at Google. No bugs were discovered in my code during my first year as a Software Engineer there, and only 3 were during my total tenure. (Like many, I thought I was one of the best programmers in the world when I was young. Unlike many, my conviction has strengthened as I've gained career experience and had the chance to test myself against others. It's because I coded instead of doing my homework for 15+ years when I was young...)

Metasquarer
I created a 10,000 user online puzzle game when I was 12. One component utilized what I would identify 8 years later as an alpha-beta pruning AI.

MusicFest Gold Winner
For piano performance of Beethoven's full Pathetique Sonata (#13).
