

# David Fan

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## EDUCATION

### PRINCETON UNIVERSITY

B.S.E IN COMPUTER SCIENCE  
CERT. IN COMPUTATIONAL BIO  
2015-2019

### MONTGOMERY HIGH SCHOOL

HIGH HONORS

2011-2015

GPA: 4.0/4.0 | SAT: 2390 | SAT II (perfect):  
Biology, Chemistry, Math

## SKILLS

### PROGRAMMING

Proficient:

Java

Working:

Python • Git • HTML/CSS •  $\text{\LaTeX}$  •

Wordpress

Learning:

SQL • Javascript

### LAB

Gel electrophoresis, high-temperature resistivity measurement, crystal depth-profiling analysis, *Drosophila* fly work, paper writing, poster presenting

## COURSEWORK

### CURRENT

Introduction to Computer Science  
Multivariable Calculus  
General Physics I  
Writing Seminar  
Intensive Third-Year Modern Chinese I

### SPRING SEMESTER

Algorithms and Data Structures  
Linear Algebra  
General Physics II  
Fundamentals of Statistics

### HIGH SCHOOL

APs: Computer Sci, Physics C Mech/E+M, Calculus AB/BC, Chemistry, Biology, English Lang + Lit, Micro/Macroecon, US Hist., Enviro Sci, Chinese, Psych.

## MY LINKS

Github:// [dfan97](#)

LinkedIn:// [davidfan97](#)

## RESEARCH AND PUBLICATIONS

### NEW JERSEY MEDICAL SCHOOL | PAID RESEARCH INTERN

Jun. 2014 – Aug. 2014 | Dept. of Cell Biology and Molecular Medicine  
Explored effects of Ras GTP-RAF-MEK-ERK signaling pathway in *Drosophila* fruit flies on organismal + organ senescence. Conducted lifespan + stress assays on transgenic flies and in-vivo heartbeat measurements. My data is published in Figures 5+7.  
(Aging - Sept. 2015): *Heart-specific Rpd3 downregulation enhances cardiac function and longevity.*

### RUTGERS UNIVERSITY PHYSICS | PAID RESEARCH INTERN

Jun. 2013 – Aug. 2013 | Center for Emergent Materials  
Explored symmetry-breaking phase transitions in rare-earth hexagonal manganites (multiferroic). Depth-profiled these materials to analyze topological defect distribution. My data is published in Figure 3.  
(Nature Physics - Dec. 2014): *Topological defects as relics of emergent continuous symmetry and Higgs condensation of disorder in ferroelectrics.*

## PERSONAL PROJECTS

### CHARITOURNEY | BATTLEHACK NYC 2015 (CLICK LINK)

- Web app that features charities in brackets to win funds from the public.
- Built on Node.js + Postgre SQL framework and Javascript, Jade and CSS

### SHADE | AP COMPUTER SCIENCE FINAL PROJECT

- Simple platformer game using Java that incorporates multi-class inheritance.

## WORK EXPERIENCE

### 5ETEK (SECOND YEAR STARTUP) | PARTNER + WEB DEVELOPER

Jun. 2015 – current | Skillman, NJ

- Developed growth and marketing strategies, launched outreach campaign at local high schools, rewrote 5 year company mission statement and wrote competition grant applications.
- Developed step-by-step circuitry modules for 5eTEK's proprietary platform. Incorporated into STEM curriculum for local schools
- Built showcase website for community projects using Wordpress and PHP/HTML/CSS.

### YU'S ELITE CENTER | INSTRUCTOR

Apr. 2015 - current | Bridgewater, NJ

- Teach fast-paced Science Olympiad competition prep to middle schoolers.
- I individually develop all curriculum for the class.

## AWARDS AND HONORS

2015	National	Intel Science Talent Search (STS) Semifinalist
2015	National	USA Biology Olympiad (USABO) Semifinalist
2015	School	MHS Visionary Award for STEM Outreach
2015	top 0.1%	National Merit Scholarship Winner
2015	State	NJ Science Olympiad Gold Medalist (x4): 2011, 2013-15
		NJ Science Olympiad Top 4 Team 2010-2015
2014	80/1000	Governor's School of Engineering and Tech. Scholar
2014	10 <sup>th</sup> /200	Merck Science Day Competition