

Matthew R. Fu

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Education

HARVARD UNIVERSITY, *College*

August 2019–Now

- **AB expected 2023**
- **GPA:** 3.8
- **Concentration:** Computer Science; **Secondary:** Education Studies
- **CS Coursework:** CS61: Systems Programming and Machine Organization, CS51: Introduction to Computer Science II, CS50: Introduction to Computer Science.
- **Math Coursework:** Math22a: Linear Algebra with Proofs, Math22b: Vector Calculus and Linear Algebra II, Stat110: Introduction to Probability.
- **Other Coursework:** GENED1076: Equity in K12 American Schools, EXPOS20: Narrating Immigration, HIST84G: Harvard and Slavery, MUSIC193R: Topics in Music 1800–Present, CHNSEBA: Elementary Modern Chinese, FRSEMR22T: Why We Animals Sing.

PARK TUDOR SCHOOL, *High School*

August 2015–May 2019

- **GPA:** 3.9 (Unweighted); 4.1 (weighted)
- **ACT:** Composite 35 (Critical Reading 36, Writing 36, Math 34, Science 33); Essay: 12 | **SAT:** 1550 (Math 800, Reading & Writing 750) | **SAT Subject Tests:** Math II: 800; US History: 780; Chemistry: 770
- **AP:** Calculus BC: 5; Calculus BC – AB Subscore: 5, Computer Science A: 5, US History: 5, English Language & Composition: 5, Chemistry: 5, Statistics: 5, World History: 5, Physics C Mechanics: 5, Microeconomics: 5, Macroeconomics: 5, English Literature & Composition: 5. **AP Scholar with Distinction**
- **Relevant Coursework:** AP CS A, Data Structures, Bioinformatics Algorithms, Math Seminar: Graphics using Linear Algebra, Computer Science Seminar.
- **National Merit Scholarship Finalist**

Work Experience

IU Department of Pathology, *Research Intern*

Summer 2018, Summer 2019

- Analyzed the historical use of Malaria to treat patients with Neurosyphilis in Indianapolis, IN during the early to mid 20th century.
- Analyzed the effect of Negative Regulatory Factor (NEF) on Pulmonary Hypertension in Mice.

Where There Be Dragons, *Market Intern, alumni ambassador*

Fall 2017–Spring 2018

- Worked with local newspaper, school, and social media to spread awareness about WTBD. Attended a weekend seminar on marketing.

Park Tudor School, *Development Intern*

Summer 2017

- Implemented a grading system for AP Computer Science A & Principles through Mimir to automate grading for those classes.

Teaching Experience

Teaching Fellow, CS50: Introduction to Computer Science, *Harvard University*.

Fall 2020

Teaching Assistant, High School Computer Science Camp, *Park Tudor High School*

Summer 2017

Projects

- **Short Story Recommender:** A recommendation system using unsupervised clustering and a minimum spanning tree based on scraped user comments and like patterns to generate story recommendations.
- **AP CS A and AP CS Principles Autograder:** An autograding system made through Mimir that allowed users to upload code and receive immediate feedback in terms of code functionality.
- **Simple Attendance Tracker (CS50 Final Project):** A fully functioning attendance tracker built for a high school robotics team. Focused on tracking the hours worked on a robot, the tracker has full functionality including check-in, check-out, history, and deletes.

Research

- **Fu, M. R., Sandusky, G. E.,** A Case Study of the Historical Use of Medically Induced Malaria to Treat Neurosyphilis. To be submitted. Indianapolis, IN.
- **Fu, M. R., Moster, A., Sandusky, G. E.** Clinical Evaluation of Tertiary Syphilis Patients Treated with Malaria in 1929–1947 at Central State Hospital in Indianapolis, IN. Submitted to Butler Research Poster Session 2019. Indianapolis, IN.
- **Moster, A.*, Fu, M. R.*, Sandusky, G. E.** Analyzing Pulmonary Hypertension in small Arterioles with NEF Transgenic Mice through image analysis. Submitted to Butler Research Poster Session 2019. Indianapolis, IN.

- *Co-first Author
- Stephens, M.*, **Fu, M. R.***, Maguire, C., Jacobsen, M., McElyea, K., Sandusky, G.E. Restoration of Anatomic Gross Specimens in Old Glass Museum Jars at the Indiana University Pathology Department. Indianapolis, IN.
- *Co-first Author
- Stephens, M. R., **Fu, M. R.**, Moster, A., Jacobsen, M., Sandusky, G. E. Analyzing Pulmonary Arterioles in the NEF Transgenic Mouse Model through Histology and Image Analysis. Future Scientist Program 2018 Poster Session. Indianapolis, IN.
- **Fu, M. R.** Harvard's Long Term Income and its Connection to Slavery. 2020. Cambridge, MA

Newspaper Publications

- **Fu, Matthew R.** China Impressions 1: Urban and Rural. Indy Asian American Times 27 June 2018.
- **Fu, Matthew R.** China Impressions 2: Past and Present. Indy Asian American Times 13 July 2018.

Honors/Awards

- NSDA National Speech & Debate Tournament Top 60 in Extemporaneous Speaking (2019)
- IHSFA Indiana State Speech Tournament, Extemporaneous Speaking- Runner-up (2019)
- NSDA National Speech & Debate Tournament Qualifier (2018, 2019)
- Judge on the ICJ in the International Hague THIMUN (2019)
- United States National Chemistry Olympiad (USNCO) exam- Honorable Mention (2017)
- National Cyberpatriot Competition- Regional 1st (2019), 2nd place (2018), Three-time State 1st place (2017, 2018, 2019)
- Regional Scholastic Art & Writing, photography- Silver Key (2019), Eight-time Honorable Mention (2017, 2018, 2019)
- National American Computer Science League (ACSL)- Twice Honorable Mention (2017, 2018)
- Regional Purdue (ACM) Coding Competition- 1st Place (2019), 2nd Place (2018), 4th place (2017)
- National Latin Exam- Twice Maxima Cum Laude (2017, 2018)

Volunteerism

- Teaching Assistant in Computer Science Summer Camp
- 200+ service hours greeting prospective students, organizing school dances, facilitating Freshman Retreats, and supporting local library
- Photographer for gallery to assist Westminster Neighborhood Services in community outreach
- Fundraiser for Miles for Myeloma Cancer Event
- Accession of Indiana Medical History Museum instruments
- Restoring solutions to medical specimen in Indiana University

Leadership and other interests

- Created an extensive database to connect storage and places to stay with students that were kicked out from Harvard due to COVID-19.
- Harvard Ballroom Dance Team VP and Secretary (Fall 2019-now)
- Tennis Team Captain (2018), Speech Team Captain (2017-2018), Cyberpatriot Team Captain (2015-2018), Chess Club Founder (2018), Chair of New Student Services at Park Tudor (2018), Crisis Committee Chair for Park Tudor Model UN Club (2018)
- Tennis player for 7 years, Hiker, Oboe player (ISSMA Gold Medal), Photographer, Cook

Skills

- Proficient in Microsoft Office applications, including Excel, Word, PowerPoint, and Publisher
- Proficient in Python, Java, C, HTML, CSS, and Git.
- Proficient in Adobe Suite applications, including Photoshop, Lightroom, Bridge, Portfolio, and Acrobat
- Proficient using Aperio whole slide imaging technology and Aperio positive pixel quantitative image analysis
- Experience using Research Electronic Data Capture (REDCap)