GEORGE ALEXANDER ("ALEX") REICHENBACH

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WORK EXPERIENCE

Matician, *AI/Machine Learning Team*, Palo Alto — Summer 2020

Krishnaswamy Lab, *Researcher*, Singapore — Summer 2019-Present

Yale Medical Lab using modern machine learning tactics to attack single-cell analysis

- Researched novel deep architectures for music generation, presented at Yale Undergraduate Research Association
- Under guidance of Smita Krishnaswamy, submitting research paper to NeurIPS

Affectiva, Inc., *Programmer*, Boston, MA and New York, NY — Summers 2017 and 2018

Emotion measurement spin-off from MIT's Media Lab; backed by Kleiner Perkins

- Built multisystem, scalable scraping framework to download videos, check licenses, convert, process, sort, and upload to AWS S3 instance. Framework processed ~16,000 videos, each with clear speech segments and faces
- Built emotion classification model using video data set, together with speech lead, with real-time web demo
- Completed laughter regression model using emotion classification model, featured at MIT Media Lab's 2017 Emotion AI summit, picked up by TechCrunch and NPR
- Built heart rate detector model using solely facial video inputs, in NIR and RGB modals
- Presented video-based heart rate detector at MIT Media Lab's 2018 Emotion AI summit
- Second inventor on approved patent "Avatar Image Animation Using Translation Vectors", second patent pending.

PROJECT EXPERIENCE

PACTF (Phillips Academy Capture the Flag), *Project Lead,* Andover, MA — 2015 - 2017

Annual online computer security competition for middle / high school students. Several thousand teams from around the world compete annually. $20,000+ in prizes in 2017 from lead sponsors JP Morgan, Amazon, and Carnegie Mellon

- *Project Lead (2017 – 2018)* – Organized development and marketing teams, while continuing to write problems
- *Head Problem Writer (2016 – 2017)* – Developed problems on topics ranging from binary exploitation and web security to cryptography
- *Founding Member (2015 – 2016)* – Helped found competition and wrote many initial problems

MIT BluePrint and **HackNEHS Hackathons**, *Team Captain*, Andover, MA — 2016 - 2018

- 2019 (YHacks) – Wolfram Award for VR high dimensional data visualization application
- 2018 (MIT) – Awarded second place for automated news bias analyzer
- 2017 (HackNEHS) – Awarded first place for website solution which identifies keyword associations in popular news outlets based on word prompts
- 2016 (HackNEHS) – Awarded first place for StudyMuse, website that generated music using probabilistic Markov models, Mingus library, and Ruby on Rails. Received $10,000+ worth AWS credits; using credits to train better musical generative adversarial network

VEX Robotics, *Programmer* — 2016 - 2017

Largest global robotics competition involving 40+ countries, 16,000+ teams, and 1,000,000+ students. In 2016 and 2017, team won in Massachusetts, participated in Worlds, and placed in top one percent.

EDUCATION

Yale University, *Second Year*, New Haven, CT — August 2018 - Present

- Coursework: Intensive Algorithms, Classical Mechanics, Introduction to Systems Programming and Computer Organization, Digital Systems, Mechatronics, Neural Networks and Language, Parallel Programming Deep Learning Theory and Applications, Artificial Intelligence, Self-Driving Cars: Theory and Practice, Vector Calculus and Linear Algebra, Intermediate German II
- D1 Club: Ultimate Frisbee

Phillips Academy, Andover, MA — 2014 - 2018

- Coursework: Fluid Mechanics, Multivariable Calculus and Linear Algebra, Graph Theory and Combinatorics, Open Source Movement, and Independent Projects on Aerodynamic Efficiency / Joint Robotics and Artificial Intelligence

OTHER INTERESTS: Classical and jazz piano for 14 years, woodworking, and hiking