Aaron Gokaslan
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EDUCATION

Brown University | GPA: 3.74/4.0 Providence, RI | 2014 - Expected May 2018
Concentration: BSc. Computer Science (Candidate)

Gilman School | GPA: 98/100 Baltimore, MD | 2010 – 2014
Cum Laude, top 5% of class, and earned the Janvier Science Prize

RESEARCH EXPERIENCE

Brown University:

- **Humanity Centered Robotics Lab**: with Ian Gonsher January 2016 - May 2016
  - Designed a full-body telepresence robot that is controlled via a web browser using WebRTC, ROS, for telemetry.
  - Focused mainly on programming the interface, server, and telemetry of the robot.
  - Video Demo: https://youtu.be/JOCcGLX_QwY
- **Human Computer Interaction Lab**: with Jeff Huang June 2016 - Current
  - Contributing to WebGazer: A Javascript library that uses a browser's webcam, user feedback, and machine learning to determine where a user is looking on screen.
  - Optimized code and increased accuracy through features such as Kalman Filters
  - Finalizing dataset curation and statistical analysis of a large user study with WebGazer for publication in ETRA 2018.
  - WebGazer Website: https://webgazer.cs.brown.edu/
- **Computer Vision Research Group**: with James Tompkin January 2017 - Current
  - Researching generative adversarial for shape morphing and image transformation.
    - Ran more than 7000 experiments over the course of the six months.
    - Presented at Brown University Undergraduate Research Symposium 2017.
    - Currently on track for submission to ECCV in the spring as first author.
- **Robotics Lab**: with Michael Littman March 2017 - Current
  - Researching the augmentation of few shot machine learning with human feedback in collaboration with University of Chicago.

Harvard University: Professor Robert Wood's Microrobotics Lab June 2015 – August 2015

- Designed and programmed software to simulate the physics of origami style laminated robots design in popupCAD
- Wrote software to convert laser cuts into 3D model to automate import the import of the robot into the Gazebo robotic simulation environment
- Wrote Python scripting interface to control the robot
- Project Page: http://www.popupcad.org/
- Video Presentation: https://youtu.be/PK1o2Lgkx4k

Johns Hopkins University:

- **Cancer Stem Cell Research Lab:** with Alfredo Quinones March 2010 – May 2014
  - Contributed to three papers by using computational and physical methods to ascertain the effectiveness of cancer treatments including stem cell therapy and epigenetic analysis
- **Center for Advanced Modeling**: with Joshua Epstein June 2014 - August 2014
  - Worked on creating multiagent models of mechanisms such as disease outbreaks.

WORK EXPERIENCE

Microsoft: Student Partner August 2015 – August 2017

- Host developer talks, hackathons, and workshops relating to Microsoft products and represents the company

Vision Systems Inc: Research Intern May 2016 - August 2016

- Programmed software that uses neural networks and more classical techniques with satellite imagery, and structure from motion depth estimations to automatically label, categorize, and correct road vectors in satellite imagery.

Facebook: Software Engineer Intern May 2017 - August 2017

- Developed software to help manage mapreduce and distributed software in the data warehouse.
- Worked on generative adversarial experiments within the applied machine learning group.

Head Teaching Assistant (Brown): January 2017 - Present

- CS160 (Cybersecurity)
- CS143 (Computer Vision)

Teaching Assistant (Brown): March 2016 - January 2017

- EMCS 2000 (Exec. Masters in Cybersecurity)
- ENGN 120A/B: Crossing the Chasm

PROGRAMMING ACCOLADES

Best Use of NASDAQ API: *HackMIT Hackathon* September 2015

- Awarded to team that best "use[d] Nasdaq market data to analyze, predict, and correlate events."
- The app converted n-dimensional arrays into sound waves using the properties of sound such as pitch, amplitude, volume and other characteristics in a VR environment.
- Presented the finished product to executives at NASDAQ in New York.
- Featured on a **Times Square Billboard** as a result. | Press Article: https://goo.gl/vAuALY

Best Microsoft Project: *Hack@Brown Hackathon* February 2015

- Programmed an application that allows the user to control a 3D avatar or augmented reality hologram for holographic conferencing.
- Focused on augmented reality projection of the holograms through a smartphone..
- Demo including video: https://devpost.com/software/holoscreen

Best iOS Software Hack: *HackPrinceton Hackathon* November 2014

- Designed app that functioned as a universal translator utilizing speech to text tech. and wearables and integrated with Google Glass. I focused on integration with Google Glass.
- Project Webpage: https://devpost.com/software/rabal-your-personal-translator
- Press Article: https://goo.gl/CjDNBB

2nd Best Software Hack: *HackPrinceton Hackathon* April 2015

- Designed a website that converted files into Youtube videos to allow the service to act as unlimited cloud storage | Press Article: https://goo.gl/4CfxuA
- Wrote and converted backend used for encoding files into videos

4th Place - Social Engineering: *UConn Cyberseed Cybersecurity Competition* November 2015

- Press Article: https://goo.gl/1nV4r5

Finalist - *Microsoft Build the Shield Cybersecurity Competition* January 2016

- Attended final round of the national security competition as one of forty teams.
- Press Article: https://goo.gl/VNU9Xk

PUBLICATIONS

- The butterfly effect on glioblastoma: is volumetric extent of resection more effective than biopsy for these tumors | Chaichana et al.
    - Statistical analysis of patient outcomes on a very malignant form of brain cancer
    - ***Journal of Neurencology***: https://www.ncbi.nlm.nih.gov/pubmed/25193022
- Spinal Cord: Anatomical Overview and Selected Pathologies | Stewart et al.
    - A review of literature concerning the human spinal cord
    - ***eLS*:** http://www.els.net/WileyCDA/ElsArticle/refId-a0021402.html
- Lumbar Fusion versus Non-operative Management for Treatment of Discogenic Low Back Pain: A Systematic Review and Meta-analysis of Randomized Controlled Trials | Bydon et al.
    - Aided in performing a metanalysis of previous studies
    - ***Journal of Spinal Disorders. & Tech***: https://www.ncbi.nlm.nih.gov/pubmed/24346052

EXTRACURRICULARS

Computer Science Department Undergraduate Group: *President* September 2015 – Present

- Coordinate events sponsored by the CS department inviting guest speakers, recruiters, and alumni to present.

Brown University Class Coordinating Board: *Public Relations Officer (Elected)* Sep. 2014 – Sep. 2015

- Managed event marketing, social media campaigns, and event logistics for student government
- Organized record-breaking homecoming event attended by over 4,000 people

Triple Helix International: *Chief Technology Officer for International Team* April 2015 – May 2017

- Redesigned national website with collaborative file sharing features and aesthetic upgrades
- Led local chapter's marketing and business ventures for the past few years

Equisat (Brown's CubeSat Team): *Radio Comm & Electr. Divisions* September 2014 – January 2016

- Discovered & patched critical vulnerability (remote code execution) due to misconfigured settings on satellite radio

NOTABLE CLASS PROJECTS

Computer Vision for Graphics and Interaction (CS295I): Fall 2016

- Devised a system of texturing a mesh of the environment using the Hololens' camera to produce more realistic rendering of virtual objects through reflection map and light source estimation

Graphics and AI (CS2951W): Fall 2017

- Improving existing CycleGAN architecture to better respect temporal consistency

SIDE PROJECTS

- **Anime-planet.com**: Volunteer as a developer for one of top 10000 most visited sites in the world
    - Deploying a large scale recommendation system based on class project to cope with the sites more than one million monthly users
- **Open Source:** Contribute to a variety of open source projects
    - JARVIS Speech API: a reversed engineered Google Speech API (lead author)
    - LVDOWin: An open source Windows port of the software I encode files as Youtube videos
    - Tensorpack: A Tensorflow library. Currently working on implementing papers as examples.
- **Github:** https://github.com/Skylion007
- **Challenge Post:** https://devpost.com/Skylion

INTERESTS: Video games, men's field hockey, rock climbing, programming, current events, court cases, murder mysteries, science fiction novels, anime, politics, computational modeling, and scientific research