TYLER LABONTE

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EDUCATION

University of Southern California, Viterbi School of Engineering — **Los Angeles, CA**
Bachelor of Science, Computer Science — **May 2021**
Minor in Statistics — **GPA: 3.82**

- USC Trustee Scholarship (top 2% of USC Class of 2021)
- USC Viterbi Fellowship (top 6% of Viterbi Class of 2021)

SKILLS

Languages: Python, Java, C++, Javascript, HTML/CSS
Software: TensorFlow, Keras, Scikit-Learn, Linux CLI, Git, LaTeX

EXPERIENCE

Air Force Maui Optical and Supercomputing Laboratory — **Kihei, HI**
Deep Learning Research Intern — **June 2018 - August 2018**

- Implemented TensorFlow to design a generative adversarial network (GAN) capable of distinguishing and simulating handwritten digits from the MNIST dataset.
- Utilized Python to develop a synthetic satellite image generator simulating the Gaussian/sinusoidal noise of space.

USC Data Science Institute (DSI) — **Los Angeles, CA**
Undergraduate Researcher — **September 2017 - May 2018**

- Used Keras and Scikit to develop machine learning algorithms to predict graft futility in liver transplantation patients.
  - Achieved an AUROC of 0.74 with deep neural network (DNN)/random forest ensemble model.
- Reduced entries in "dirty dataset" by 93% through preprocessing and cleansing, resulting in 22,000 usable entries.
- Applied F1/AUROC to evaluate models including neural networks, support vector machines, and random forests.
- Wrote and researched sections of conference paper (Stanford ML for Healthcare) and project/funding proposals.

PROJECTS

PageRank Simulator — **Final Project, CS104: Data Structures**

- Used C++ to simulate a webpage dataset and implement the PageRank algorithm. — **February 2018 - April 2018**
  - Developed a crawler to autonomously discover relevant webpages using depth-first search.

World's Stage — **SB Hacks IV Hackathon, University of California Santa Barbara**
Ethical Hacking Finalist (top 20 out of thousands of projects from dozens of MLH hackathons) — **January 2018**

- Utilized JavaScript to implement and combine the YouTube API and Google Maps API.
  - Enabled users to explore cultural differences in dance through access to undiscovered cover videos.

Compute — **October 2017 - November 2017**

- Used JavaScript to program an incremental game whose progression is governed by a series of exponential functions.
  - Devised a method to gather efficiency data from web app and export to a spreadsheet for analysis.

USCalendar — **TrojanHacks Hackathon, University of Southern California**
Honorable Mention — **September 2017**

- Applied JavaScript and HTML/CSS to program an automatic push notification system for course tracking website.

LEADERSHIP

USC Hawaii Club Executive Board — **Los Angeles, CA**
Vice President of Finance — **August 2018**
USC Viterbi Adopt-a-School/Teacher (USC VAST) — **Los Angeles, CA**
Robotics Coordinator — **January 2018 - Present**

- Initiated a $22,000 grant application to bring Sphero robotics to three inner-city elementary schools.
- Led five USC volunteers and designed curriculum for Sphero outreach session, educating 30 teachers in basic coding.
- Coordinated LA schools, USC laboratories, and student groups for annual Robotics Open House with 2,400 attendees.

USC Viterbi STEM Educational Outreach — **Los Angeles, CA**
Volunteer VEX Robotics Mentor — **December 2017 - Present**

- Established and mentored a middle school VEX Robotics team of four female minority students.
- Led growth of program to include a competitive team and training team, with three additional USC volunteers.