

Education

University of Texas at Austin, Class of 2019. Double Major: BSA Computer Science, BA Music - Classical Guitar

- Honors: **College of Natural Sciences Polymathic Scholars**
- Certificate / Thesis: **Music and the Computational Brain** (in progress)
- Cumulative GPA: **3.68**

Coursework

Artificial Intelligence (Honors), Computer Music, Algorithms and Complexity Theory, Data Management, Computer Science Policy (H), Programming Languages (H), Operating Systems (H), Linear Algebra, Computational Evolution, Computer Architecture (H), Data Structures, Discrete Math (H), Probability and Statistics

Work Experience

- **Facebook** – *Summer 2018* – developed a pipeline and GUI for regression detection and metric population adjustment. Participating in company hackathons for music-recommending user-facing features.
- **Undergraduate Researcher** – *2017 to current* – Worked in the Integrative Biology department helping streamline a big data bacteria speciation pipeline. Position included extensive redesign of an existing code base to make it lightweight, web-ready, and able to be run in a distributed environment. (Python, AWS, OpenMPI)
Publication: DOI: 10.1093/bioinformatics/bty400
- **Audible Software Development Engineer Intern** – *Summer 2017* – Worked to integrate model-based testing with an existing manual test case framework and created visualizations for results. Hosted educational events so that the new workflow could be widely adopted. (Java, AWS ELK, Graphwalker)
- **Union Pacific Technical Intern** – *Summer 2016* – Collaborated to produce a predictive costing system.

Projects

- **Songitude** (full stack, AWS) – *Summer 2018* – A location based sound player meant to enable geographically relevant musical experiences. Think TSwift’s “Welcome to New York” when you land at JFK, sound installations that can exist permanently around a space, or your favorite song following you for passers-by to listen in to.
- **Sonata Generator** (Java) – *Spring 2017* – Designed and implemented an expert-system algorithm that generates a piano sonata. (think early Mozart) www.brianellisound.com/sonata
- **Executive Dashboard: First Place Hackathon Project** (AngularJS, HTML) – *Summer 2016* – Developed a display of Union Pacific system metrics comparing the current health of the network against geographically situated historical data. Collaborated in a 24 hour period with two partners.
- **“Make It Rain”** Chrome Extension (JavaScript, HTML, CSS) – *Spring 2014* – RSI Game involving graphic design and usage of several Chrome APIs. At height of usage, **over 120,000 users**.

Technical Skills

- Python, Java, Tensorflow, SQL, AngularJS, NodeJS, React, Hack (php), HTML, Elastic Stack, BASH, C, C++

Leadership

- **Eagle Scout** – *2012*, **Vigil Honor Member** – *2012*
- **Alpha Phi Omega: Merit Badge University (MBU)** Coordinator – *2016* – Charged with organizing the largest MBU in the country, annually attended by over 1400 scouts from Texas and beyond. Managed a budget of \$24,000.
- **Order of the Arrow: Lodge Chief** – *2013 to 14* – Top youth position in the 15-county Central Texas area. Responsible for all program and service functions, and representation to higher-level assemblies.

Musical Experience

- Classical Guitar: *2001 to present* – Matthew Gillen, prev. Celil Refik Kaya, Chad Ibison, Slobodan Vujisic
- Founding Member of Burnt Orange Bluegrass, a student bluegrass music group on the UT campus.
- Member of the UT Steel Pan Ensemble – *Spring 2015 - Present*