

John Benjamin “Ben” Krege

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EDUCATION

Northwestern University, Evanston, IL
Bachelor of Science, Double Major in Computer Science and Music

March 2019
GPA: 3.41

Relevant Coursework

Software Development • Machine Perception of Music • Artificial Intelligence • Machine Learning • Deep Learning
• Data Science Seminar • Operating Systems • Data Structures • Algorithms • Numerous Music Courses

PROGRAMMING EXPERIENCE

- Full stack hybrid web/mobile development with JavaScript, React, Angular, Ionic, .Net, Node.js, MongoDB
- Artificial Intelligence with Python, Scikit-Learn, TensorFlow, Lisp
- Data science with SQL, Trifacta, Weka, PowerBI, DAX/Excel

WORK EXPERIENCE

Machine Perception of Music Peer Mentor, **Northwestern University**, Evanston, IL *January 2018 - Present*

- Apply knowledge of digital signal processing to help develop and grade homework.
- Mentor peers to help create novel music applications.

Recipient, **Northwestern Undergraduate Research Grant**, Evanston, IL *September – December 2018*

- Synthesized current research in generative neural networks to write a successful grant proposal.
- Built an interactive web application using TensorFlow and Magenta.js to assist music composition and pedagogy.

Full Stack Web Development Intern, **SWC Technology Partners**, Oak Brook, IL *July – September 2018*

- Developed a security auditing tool services with .Net and PowerBI to enhance and accelerate SWC's services.
- Introduced and wrote documentation for Selenium based end to end (e2e) testing software.

Machine Learning and Data Science Intern, **Health Strategy LLC**, Chicago, IL *June – December 2017*

- Designed and implemented a data mining framework with wide functionality and application support using open source software including PyMySQL, Scikit-Learn, and TensorFlow.
- Created an outlier identifier, effectively reducing the number of health insurance claim that need to be manually read by a factor of five thousand.

Intern, **Indiana University School of Medicine**, Indianapolis, IN *Summer 2013, 2014, 2015*

- Authored “Reference point indentation is insufficient for detecting alterations in traditional mechanical properties of bone under common experimental conditions” published in Bone Journal, April 2016 issue.
- Conducted primary and secondary research in bone mechanics and executed numerous experiments.
- Innovated upon techniques to make lab procedures more efficient and precise.

LEADERSHIP & ADDITIONAL EXPERIENCE

Radio DJ, **89.3 WNUR Street Beat**, Evanston, IL *September 2016 – Present*

- Host weekly shows on university radio, performing live mixes on air and in local venues.
- Participate in discourse surrounding and promoting underrepresented music.

Bassist, **Freelance**, Evanston, IL *August 2014 – Present*

- Collaborate with colleagues to perform a wide range of musical repertoire under high pressure.
- Write, perform, and record with top 10 Reverb Nation Chicago folk group, The Greenleaf Band.
- Accompany over seven Chicago semi-professional, Northwestern mainstage, and student dramatic productions.

Historian, Philanthropy Chair, Social Chair, **Phi Gamma Delta**, Phi Chapter *January 2015 – March 2018*

- Restructured service program, set clear goals, and built a framework for community impact.
- Coordinated annual philanthropy events: Phi Gamma Delta Benefit Concert and Bone Marrow Drive.
- Introduced a digital solution for preserving knowledge and tradition for future generations.

Product Engineer, **Institute of Electrical and Electronics Engineers**, Northwestern Chapter *Fall – Spring 2016*

- Led a team of engineers and musicians to design, build, and program a laser harp.
- Conducted market research and met with leading student music producers to evaluate design and marketability.

