# Pavan Seshadri

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pavanseshadri • US Citizen

## Education

**Georgia Institute of Technology** **Atlanta, GA**
*B.S. Computer Science, Minor in Music Technology | Deans List 2018 - Present* *Aug. 2017 - May 2021*
Concentrations in: Artificial Intelligence and Media

**Relevant Coursework**: Deep Learning, Machine Learning, Robotics and Perception, OOP Design Patterns, Design and Analysis of Algorithms, Computer Architecture, Data Structures, Linear Algebra, Applied Combinatorics

## Experience

**Amazon, inc.** **Seattle, WA**
*Software Development Engineer Intern* *May. 2020 - Aug. 2020*
- Interned on the Browse Classification team, which develops DNN models to categorize incoming products for Amazon.com
- Designed and built an automatic threshold feature in the DNN training pipeline to produce accuracy/coverage curves and pick a threshold value, which lowered total applied scientist effort from 45-75 hours to minutes.
- Leveraged AWS lambda, EMR, S3, and Apache Spark to implement DNN training features.

**Georgia Tech GVU Center** **Atlanta, GA**
*Research Assistant | Music Informatics Lab* *Jan. 2020 - Present*
- Researching the use of Neural Networks to automatically grade and give feedback on musical performance auditions.
- Scaled up current RNN and CNN-based models to incorporate additional datasets using PyTorch.
- Optimized models to increase performance by 25% in predicting musicality, rhythm and note accuracy scores.
- Investigating and building models to grade musical performances for a single instrument.

**Georgia Tech School of Biomedical Engineering** **Atlanta, GA**
*Research Assistant | Gleason Lab* *Aug. 2018 - Aug 2019*
- Worked on an iOS based tool to determine pregnancy risks from scanned 3D models of patients, currently deployed in Ethiopia.
- Developed an iOS application to determine pregnancy complication risk based on developed mathematical models.
- Implemented Gradient Analysis techniques to classify human anatomy on 3D models using MATLAB.

## Awards

**2020**: President's Undergraduate Research Award

**2016**: Eagle Scout Award

## Projects

**Software Graphics Renderer**: C++
- Developed a software based rasterizer and renderer for rendering 3D models and environments with vertex and pixel shader support using SDL. Is capable of backface culling, barycentric interpolation, and texture mapping .
- Halved the runtime over the basic implementation with block-based rasterization and parallelization using OpenMP

**Song Generator**: Python
- Web app that scrapes lyrics from the web and uses markov models to generate a new song based on a certain artist.

## Skills

**Programming languages**: Python, Java, C/C++, MATLAB, Swift, HTML/CSS, Bash

**Frameworks/Tools**: AWS Suite, Numpy, scikit-learn, PyTorch, pandas, Android SDK, iOS SDK, Git, Agile

**Languages**: English, Spanish

**Interests**: Audio ML, NLP, Robotics, Music Composition, Audio Engineering/DSP, Creative Writing, Finance