NACHIKETA GARGI

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University of Michigan
Aug 2018 - Dec 2021
B.S.E Computer Science
GPA: 3.94
Coursework
- Logic Design
- Operating Systems
- Advanced Embedded Systems
- Parallel Computing w/ GPUs
- Advanced Compilers
- Computer Vision
- Computational Linguistics

Organizations
- Project Music (Software Team Manager)
- WolvSec Computer Security
- Alternate Reality Initiative

Awards
- University Honors
- James B. Angell Scholar

The Nueva School
2014 - 2018

Programming
- C/C++ (OpenCV, JUCE, Arduino, PCL, UE4, CUDA, OpenVR)
- Python (PyTorch, Tensorflow, Keras, NumPy, OpenCV)
- Javascript (NodeJS, Express, Vue)
- C# (Unity)
- Rust
- Go
- OCaml

Creative
- Ableton Live & Max/MSP
- Adobe Creative Suite
- Blender
- Unity
- Unreal Engine 4

Publications
- **ISMIR 2018** - Adversarial Reinforcement Learning for Music Generation
- **NIME 2020** - Cross-platform and Cross-reality Design of Immersive Sonic Environments

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Deep Learning Software Engineer   Jan 2022 - Present
NVIDIA
- Returning to TensorRT team to work on integration with deep learning compiler

Performance Software Engineering Intern   Summer 2021
NVIDIA
- Optimizing inference for transformer networks such as BERT on TensorRT team
- Added support for Einsum operation to TensorRT

Performance Software Engineering Intern   Summer 2020
NVIDIA
- Improved functionality and performance of recurrent neural networks in TensorRT - SDK for high performance deep learning inference
- Added support for ragged recurrent layers
- Reduced inference time of Tacotron2 decoder network by 50%

Programmer   Sep 2020 - Jan 2022
Production Club
- Developed Unreal Engine 4 plugins
- Implemented WebRTC live-streaming across C++ and Web platforms
- Developed and deployed backend on AWS to deploy UE4 instances on the fly

Research Assistant   Sep 2018 - Jun 2019
University of Michigan
- Assisted research study titled "A Computational Study of Patterned Melodic Structures Across Musical Cultures"
- Developed novel OCR techniques for digitizing scanned music corpus with OpenCV and Tensorflow

Full Stack Developer   Jun 2017 - Sep 2018
YouSound
- Full stack web development with Node.js and Vue deployed on AWS
- Implemented video live-streaming platform using AWS Elemental MediaLive, MediaPackage, and CloudFront

Software Engineering Intern   Summer 2016
Primity Bio (now CellCarta)
- Created collaborative real-time data visualization frontend with AngularJS

Projects
Inviso AR
- Working with Professor Anıl Çamcı on a augmented reality spatial audio authoring tool for Android and iOS built in Unity

Music Makeathon 2018
- Built a live, real-time audio processor with C++ and JUCE in 18 hours that won first place in the U-M Project Music 2018 Makeathon.
- Featured in U-M Engineering Newsletter

CTF Challenges
- Top 30 placements on numerous online CTF challenges including CamsCTF, EasyCTF, and PicoCTF. Also participated in the Flare On 2019 Challenge.

Music Production
- Regularly produce electronic compositions under the alias Kanooli.
- Accumulated over 300k total plays on multiple platforms

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