

NACHIKETA GARGI

Student, Developer, Musician

ngargi.me
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University of Michigan

Aug 2018 - Dec 2021

B.S.E Computer Science

GPA: 3.91

Coursework

- Data Structures and Algorithms
- Logic Design
- Computer Organization
- Embedded System Design
- Parallel Computing w/ GPUs
- Operating Systems
- 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#
- OCaml
- Go
- Rust

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

Performance Software Engineering Intern

Summer 2021

NVIDIA

- Optimizing inference transformer networks such as BERT
- Internship still in progress

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%

Development Assistant

Sep 2020 - Current

Production Club

- Assisted with tasks ranging from Unreal Engine 4 plugin development, WebRTC live-streaming, and backend web development

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

- Created collaborative real-time data visualization frontend with AngularJS

Projects

Inviso AR

- Working with Professor Anil 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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