

Tyler Thurston

EDUCATION

Georgia Institute of Technology

Master of Science in Computer Science - Machine Learning Specialization; GPA: 4.00

Atlanta, GA

Aug. 2019 – Dec 2022

University of Tennessee

Bachelor of Science in Computer Science

Knoxville, TN

Aug. 2009 – May 2013, Jan 2016 – Dec 2016

PROFESSIONAL EXPERIENCE

Computer Scientist

Naval Surface Warfare Center Philadelphia

October 2019 – Present

Philadelphia, PA

- Design and develop software solutions revolving around cybersecurity, networking, and machine learning.
- Responsible for the full life-cycle of software, from design to maintenance under strict security technical implementation requirements. Active secret security clearance.
- Lead small team which have delivered projects in Python, C, C++, C#, and Haskell across a large domain of use-cases.

Instructional Associate

Georgia Institute of Technology

May 2021 – Present

Atlanta, GA

- Work under Dr. Charles Isbell for the graduate course CS7642 - Reinforcement Learning.
- Lead Office Hours, design and develop assignments, grade academic papers, and guide direction of course.

Data Architect II

Universal Health Services

April 2017 – October 2019

Philadelphia, PA

- Served as primary architect for payroll and timekeeping databases handling the data of over 50,000 current employees. Including database design, java development, and python scripting.
- Managed and supervised small team to assist other groups with automated data migration and reporting.
- Added version control, unit testing, and code review to the standards of my group as well as rewriting and refactoring thousands of lines of legacy Fortran code into Python.

Database Administrator

TeamHealth

Dec 2013 – April 2017

Knoxville, TN

- Responsible for 1000+ SQL Server and Oracle databases across 300+ production servers, including database design, implementation, data integrity, disaster recovery, and maintenance.
- Developed and tested a SQL process that integrated payroll with the phone system of 150 triage nurses which removed manual timekeeping and removed outages saving tens of thousands of dollars per year.
- Hired as an intern May 2013 and hired full-time afterwards in December 2013.

PROJECTS

femtoGPT | *Python, PyTorch*

- Generative Pre-trained Transformer written with an emphasis on concise implementation.
- Mimics the the performance and architecture of GPT-2(124M). Neural network, attention mechanism, tokenization, training, and fine-tuning done by hand.
- Trained over 4 days with a single 3080ti. Matches or exceeds GPT-2 performance on several benchmarks.

retroGAN | *Python, PyTorch*

- Unpaired image-to-image translation between 8-bit and 16-bit pixel art using Cycle-GAN architecture.
- Involved 2 generators to create 8-bit and 16-bit screenshots and 2 discriminators to distinguish generated images from real. Used a custom loss function derived off Nintendo console color palettes.
- Resulted in convincing image conversion from NES → SNES and SNES → NES.

TECHNICAL SKILLS

- **Languages:** Python, C/C++, Java, Haskell, C#, Javascript/Typescript, Svelte, SQL.
- **Tools & Libraries:** PyTorch, Git, Linux, AWS, Visual Studio Code, NumPy, Spark, Docker, LaTeX, pandas.
- **Interests:** Machine Learning, Reinforcement Learning, Natural Language Processing, Functional Languages.