706 Old Liverpool Rd
Liverpool NY 13088

Dear HR Department,

I am applying for the position as a certified Electrical and Computer Engineer based on my overall interests in the role motivated by coursework, project-based work, and professional experiences.

As of May 2020, I received my degree in Electrical and Computer Engineering B.Sci with a minor in both Applied Physics and Mathematics at New York University Tandon School of Engineering. Here, I completed a wide range of coursework; some of these courses include but are not limited to C++, Python, algorithms, computer architecture, data structures, electromagnetic waves on transmission lines, signal analysis, feedback systems, electronics, and semiconductor physics. In terms of Math and Physics, I have completed coursework in QFT, Classical Electrodynamics, analytical mechanics, Discrete Math, and Differential Geometry.

In conjunction with these classes, I took on two major projects within my fours, the first being my senior design project and another based on Neural Networks – a work in progress. For the former, I partook in a team effort to create a delivery bot capable of navigating to a specified address all while avoiding obstructions. The bot itself was made using an automated vacuum cleaner with Arduino modifications to provide functionality with an AI for instructions and several sensors for movement. My participation focused primarily on developing the AI using unsupervised learning programmed in Jupyter but hardware implementations were understood.

On a more personal note, my secondary research is concentrated in Geometric Deep Learning (GDL); it is an effort to use methods in Differential Geometry to produce more efficient pooling methods to remedy data loss while minimizing the complexity of fully-connected neural layers. My secondary objective is to create simpler representations of the Neural Manifold, i.e. each neural layer, to open more doors of computation (both mathematical and programmatic) while preserving fundamental qualities such as its diffeomorphic nature. This project is primarily code in C++ for its computational speed and its ability to create object-oriented classes.

My most recent work experience is as a C++ Software Developer at Lockheed Martin since 2023-03-06. My role involves adding technical support to the radar system on the Sentinel LTS-A4 program be it diagnosing issues revealed during testing or modifying software to accommodate the needs of one of our customers. Despite C++ being the primary language that I work in, I have used additions such as VBA, Python, and Java. Moreover, familiarity with shell languages such as ba/c/ksh has been necessary to not only navigate the facilities on the radar but also add and upgrade software to the OS for out-of-the-box usage.Aside from the software side of work, it is necessary to understand the entirety of the system, i.e. being able to understand the hardware and how the hardware is affected by the software – the interface.

Much of my current work has been motivated by my previous experiences; prior to working at Lockheed Martin I once worked at Morgan Stanley for about a year and a half. Here, I worked solely on a terminal-based Ubuntu OS modified for workers to help mitigate any issues between the transfer of stocks and bonds from a client to the exchange and vice versa. Despite the job title, I had to learn XML and Perl5 since a sufficient amount of the architecture maintained by the trading platform is/was written in these languages. Additionally, I used Python (vanilla and Jupyter) to perform network analysis on packet transmission between the client/Morgan Stanley and between Morgan Stanley/exchange to understand rate of transmission, data loss and redundancy, and to find faults within the system.

Aside from this job, I've worked as a project-based test engineer for Mini-Circuits for about 6 months where I tested and ran analyzes – both using hardware and software coded in C++ – on prototype electronic components to record if they met or exceeded factory standards before mass production. Some of the equipment I used in testing included network analyzers, spectrum analyzers, and noise figure analyzers. With my professional experiences plus self-motivated research, I work as a free-lance computer technician; I help out with hardware issues from replacing cracked screens to modding CPU's for user personalization upon request. Moreover, I am involved in the software side, performing tasks such as account recovery or program development to create applications such as programs to web-scrape information. Additionally, I've learned C# for use in pen-testing to allow clients to understand where they stand in a cybersecurity standpoint.

It would be a pleasure to work on your team as an Electrical and Computer Engineer because not only do I possess the skills necessary to meet expectations but also I am a quick-learner with solid work ethic who is communicative, reliable, and easy to collaborate with. I appreciate your time and consideration and I hope to further our conversations some time in the near future.

Regards,
Victor Adegbite