Neil Mandir

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Education

Winston Churchill High School
August 2022 - present
Class of 2026

Skills

Languages
- C++
- Embedded C
- Bash/Shell Scripting (linux)
- Python
- Java/Kotlin
- Matlab
- Front End Languages (js,css)
- SQL

Relevant Courses
- AP Physics C Electricity & Magnetism
- AP Physics C Mechanics
- AP Physics 1
- Linear Algebra
- AP BC Calculus
- E4USA Engineering Design

Ham Radio License (KD3BYV)
- Technician Class

Tools & Software
- Git
- Vim/NeoVim
- VisualStudio
- Dsview/Sigrok/PulseView
- EasyEDA desktop
- Autodesk Fusion 360
- Oscillioscopes
- Digital Logic Analyzers
- Blender
- DaVinci Resolve
- Inkscape
- GIMP/Photoshop
- Microsoft Office Suite
- Excel - highly proficient

Violin - 10 years
- Maryland All-State (2024, 2025)
- Young Artists of America 4 years
- 9th Street Chamber Group
- Midwest Clinic Competition (IL)
- MPTV studio recording
- MCPS Honors Orchestra
- Maryland Classic Youth Orchestra
- Potomac Valley Youth Orchestra
- Concert Master of HS Orchestra

Baseball - 10 years
- KOA Waves travel team
- Little League All-Star team
- Montgomery County Little League
- Rockville Baseball Association

Cross Country - 3 years
- Varsity XC team

Experience

Software and Hardware DevOPs Engineer Intern at SECO
SECO USA
Rockville, MD
June 2025 - Present

- Independently write programs for testing SBCs (Single Board Computers) to ITAR specs
- Submit patches to the Linux kernel, including one merged into official mainline kernel
- Validate hardware and software of embedded system PCBs to customer requirements
- Discover design flaws using tools like digital logic analyzers and oscilloscopes
- Fix design flaws through embedded code revisions or hardware modification

Technical Lead for Student Business
Tutti Tutors
Potomac, MD
March 2025 - Present

- Create specialized interactive hardware and software for a business expo competition; handle all business' technical and website needs

ALS Association Technical Volunteer
ALS Association
Maryland
June 2025 - Present

- ALS Association's Maryland Technical Representative
- Provide hands-on assistance and troubleshooting for assistive devices to ALS patients, supplementing the organization's primarily virtual support

Apprentice of Kid Museum
Bethesda Metro Center
Bethesda, MD
June 2022 - December 2023

- Educated Groups of students in STEM fields
- Aided in the creation of lesson plans and course design
- Prioritized the learning engagement of all students

Lead of Asian Culture Club
Cabin John Middle School
Potomac, MD
January 2024 - June 2024

- Independently led the Chinese Club at Cabin John Middle School
- Wrote lesson plans and directed students in learning
- Weekly meetings and preparation for live performance by club members

STEM Activities

E4USA Engineering Class
Winston Churchill High School
August 2023-June 2024

Awarded Best Project Design and Prototype

- Competed with peers to develop a product
- Year long process of planning, research, rapid prototyping, and user feedback
- Selected by judges as best design
- awarded a stipend to bring prototype to life

Kid Museum Teen Enrichment Pilot Program
Bethesda Metro Center
February 2023 - December 2023

Awarded Studio Design and Coding Award

- Small group chosen via competitive application
- Weekly STEM projects expanding technical capabilities
- Special talks with heads of research and design
- Summer long team collaborated and designed project build intensive

GEMS Engineering Summer Program
AEOP, Walter Reed Institute
Summer 2021

- Selective application process
- Participated in peer-led discussion and projects
- Guided by Walter Reed Institute and Research mentors
- One-on-one guidance from researchers of the U.S. Department of Defense

AI Scholars Program
Inspirit AI
Summer 2022

- Summer intensive
- Leadership positions in cohort projects and presentations
- Guidance from Stanford + MIT alumni and graduate students
- Prepared a presentation on group project

Research

SARC Research Competition
Columbia University
Spring 2023

Developed and wrote research proposal to develop an affordable, non-invasive environmental data probe utilizing bio acoustics and animal sound Fourier transformation to calculate biodiversity within an ecosystem

Science Fiction Influences
Congregation-wide Presentation
August 2021

Research project on how SciFi influences the modern world. This project took approximately a year to complete and consisted of visiting space exhibits, extensive online research and interviewing astronaut Jeffery Hoffman. The project culminated in a presentation to my community.

Fiction to Fact: A Scientific Journey of Communication
National History Day Competition
March 2021

Created a multimedia website presentation of historical topic of interest including process paper and annotated bibliography. Earned “superior” and “excellent” rating across 14 different categories from judges.

Personal Projects

Handheld Digital Analog Waveform Generator
Single board and pocket sized 5x7cm single channel waveform generator. Utilizes an atmega328p, several potentiometers, and a capacitive interface to adjust an output analog waveform.

School Workflow Balance Program
Web-based JS client which retrieves school assignment data from Instructure Canvas and displays them in an organized, coherent manner. Interfaces with the server's GraphQL API and other methods.

Mechanical Foot Pedal Interface
3D printed bluetooth foot pedal to aid in digital music page turning. Utilizes an ESP32 microcontroller to send a custom bluetooth signal to a device upon mechanism depression. Uses low cost materials with an accessible design.

Personal website: Luroxin.com
A personal brand website portfolio. Features a variety of my projects and skills, including detailed project process description and documentation.