

# NICOLE CHOE

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## EDUCATION

**Northeastern University** (*Boston, MA*)

**May 2027**

**BS in Bioengineering (Synthetic and Computational Concentration), Minor in Graphic & Information Design**

**Coursework** (\*denotes Lab): BioE Measurement, Experimentation, and Statistics\*, Engineering Cornerstone I & II, Quantitative Physiology, Biomechanics, Bioelectricity, Engineering Approaches to Precision Medicine I, Physical BioE

**Activities:** ChemE Car, NU-in Greece, Birding Club (*Founder*), SWE, BMES, Sewing Club, Engineers Without Borders

**W.T. Woodson High School Advanced Diploma** (*Fairfax, VA*)

**June 2022**

**Coursework:** Java Data Structures, Computer Science Capstone, Genetics and Biotechnology

**Activities & Awards:** Science Olympiad (*President, Mentor, States Competitor*), 16 Science Olympiad competition medals, Operation Smile (*VP*), Science National Honor Society (*Mentor*), AFA CyberPatriots (*Team Lead*), Pit Orchestra (*1<sup>st</sup> violin*)

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## SKILLS

**Computer:** JAVA Object Oriented Programming and Data Structures, Excel, Linux/Debian, Arduino Microcontrollers, Adobe Creative Cloud (*Photoshop, Illustrator, InDesign, Substance 3D Painter*), SolidWorks, Git, Protein 3D modeling (*Jmol/Pymol*), AutoCAD, Blender

**Lab & Hardware:** Basic work with cell cultures, Hazardous waste management, General lab safety and aseptic technique, Cell embedded hydrogels, Bradford and Lowry protein assays, Gel electrophoresis, Centrifugation, 3D Printing, Soldering and PCB, Bandsaw, Lathe, Laser cutting

**Language:** Java, Python, MATLAB, C++, HTML/CSS, JavaScript

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## EXPERIENCE

**Kokee Tea** (*Fairfax, VA*) - Tea Barista & Ramen Cook

**March 2021 – September 2022**

- Built customer loyalty, bilingual customer support

**Operation Smile** – Vice President

**September 2020 – June 2022**

- Fundraised for children born with cleft lip/palate(merchandise sales, local restaurant partnerships)
- Managed social media accounts, fundraisers (merchandise sales, local restaurant partnerships)

**Science Olympiad** - President (2021-2022), Secretary (2020-2021), Mentor (2018-2022)

**September 2018 – June 2022**

- Cultivated a constructive learning environment for 50-60 competitors
- Prepared teams for competition - All groups I mentored received medals at Virginia Tech Regionals
- Organized and hosted fundraisers (merchandise sales, local restaurant partnerships), tryouts, event/team meetings, and team bonding events
- Oversaw competition registration, ride/hotel room arrangements, material ordering systems, build supplies, social media
- Collaborated with WTW HS Science Dept in student science fair replacement grading
- Created grading rubric, Oversaw the writing of practice exams/lesson plans as well as grading and recording.

**AFA CyberPatriots** – Team Lead

**September 2018 – May 2021**

- Qualified for the State final and placed 12th place in the Gold division in Virginia.
  - Competed in a group of 4 to secure VM images from Windows 10, Windows Server, Debian, and Ubuntu as well as a Cisco networking portion. These tasks range from simply turning on firewall to decoding image steganography.
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## PROJECTS

**Early Stratification of the Post-cardiac Arrest Neurological Outcome**

**January 2024 – Present**

- Working with and analyzing data from International Cardiac Arrest Registry (INTCAR) of Maine Medical Center to predict cognitive outcome (cerebral performance category scale) using the first 6 hours of clinical data available after recovery of spontaneous circulation (ROSC)
- Data analysis with ML using numpy

**Auto-Phoropter**

**April 2023**

- Designed, 3D modeled, 3D printed and assembled an Arduino-powered machine for self-administered optical refraction test

**Portfolio and Personal Websites**

**February 2023 – Present**

- Created a Web 1.0 GeoCities-inspired experimental website as well as a modern-style professional website
- Hosted using Akamai Linode
- Self-teaching HTML/CSS, JavaScript, PuTTY, WinSCP, Jekyll, Node.js, Three.js, React, Tailwind CSS

**Raspberry Pi AI Bird Identification Camera**

**May 2022**

- Created an offline AI accelerator, integrating TensorFlow and Google APIs
- Set up Python script that took a short video or image whenever the AI met a certain confidence threshold

**Owning and maintaining my own Etsy store**

**May 2018 – August 2021**

- Establishing a workflow, SEO, 3D modeling, adaptability with technology
  - Designing, creating, listing, and shipping 3D printed, resin cast, and sculpted multimedia jewelry as well as homemade gaming NFC chips, self-designed sticker sheets, button pins, etc.
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## INTERESTS

Sewing and fiber art – I love to make unique clothes, accessories, plushies and art pieces for my friends and family!

Web Design and Development – I am constantly working on a new custom typeface or unique web page layout, or a fun JS for my personal website. I am also teaching myself more about back-end web development like Node.js and server hosting.

Digital Illustration – I love reading books about product and poster design and creating my own designs for my own products.

Ice Skating – I used to figure skate competitively and speed skate at a national level, now I just enjoy skating with my younger sister.

Birding - In Virginia I am in a bird watching group and I love to learn from the more experienced birders and immerse myself in nature. Coming to a hyper-urban area of Boston, I missed nature and decided to start an informal birding club at my school.

Experimental music - During pandemic I was involved in organizing small online concerts, and lately I have been teaching myself music production.