**Alexander M. Chapin**

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West Friendship, MD 21794 [achapin@nbinteractive.com](mailto:achapin@nbinteractive.com)

| Education |
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**University of Maryland**  **Expected Graduation: May 2029**

*College Park, Maryland*

Activities: **Member,** Terps Racing; **Member,** College Park Scholars; **Member,** IEEE Student Branch

**Glenelg High School**  **Graduation: May 2025**

*Glenelg, Maryland* GPA: 4.9/4.0

Activities: **Systems Lead**, FIRST Robotics Team 888; **President**, National Technical Honor Society; **Treasurer**, Class of 2025 Student Government Association; **Member**, National Honor Society; **Member**, National Mathematics Honor Society;

| Research / Projects |
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**CPU Voltage Regulation Design September 2024 – May 2025**

* Designed a comprehensive voltage regulation system in NI Multisim and LTSpice to provide power for a CPU
* Mentored by Jonathan Cohen (APL)

**NASA HUNCH Ice from Lunar Regolith September 2024 – May 2025**

* Designed and coded in Python a large prototype to extract ice particles from lunar rock particles using vibration
* Presented at Space Center Houston to NASA engineers for review

**FRC Robotics Software September 2021 – May 2025**

* Designed and developed ML vision systems for object detection, field localization, and pathfinding.
* Created libraries for processing vision data in Java and designed pathfinding algorithms for navigation

| Skills |
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* Computer hardware, clock speed adjustment, voltage and power management**,** DRAM timing analysis, static timing analysis
* Team management
* Technical support for Windows, Linux devices
* VRM research / design, signals processing, VID management / core voltage regulation
* Fluent in Python, Java, Matlab, Tensorflow, Pytorch, AI vision processing and C++
* Autonomous robotics development and digital electronics
* Parts manufacturing, CNC mill, lasercutter, lathe
* Computer Aided Design, Autodesk, OnShape, NI Multisim, LTSpice

| Work Experience |
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**Alex’s Snow Cones and Ice Cream April 2022 – October 2024**

*Lisbon, Maryland*

Shift Manager; Customer Service Representative

* After one season, promoted to shift manager
* Trained and managed CSRs, delegated service and cleanup duties for each shift
* Managed inventory, ordering, reviewed & validated sales receipts, completed end of shift deposit

| Awards and Honors |
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* NASA HUNCH Design and Prototype National Finalist
* Boy Scouts of America Eagle Scout Award
* Maryland Governor's Citation 2024
* Glenelg High School Technical Excellence Award 2025
* FIRST Chesapeake District Autonomous Award 2025
* FIRST World Championship Qualification Newton Division, Hopper Division 2024/2025