Alexander (Sasha) Ries

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EDUCATION

Dartmouth College | *BE in Computer Engineering*   Graduating Jun 2025
- GPA: 3.81 | Awards: Citation for excellence in ENGS 031 (Digital Electronics)

Colby College | *BA in Physics + Russian Language and Literature*   Graduated May 2024
- GPA: Cum Laude - 3.93 | Awards: William A. Rogers Prize for meritorious achievement (Physics department)
- Activities and Societies: Slavic Honors Society, Physics Honors Society, Dartmouth Formula Racing Team

WORK EXPERIENCE

Dialed AI Pep Talks | *Backend Software Developer + Co founder*   Dec 2024 - Present
- Optimized content streaming using Websocket endpoints, reducing user wait time by 75%
- Designed ephemeral link generation with configurable 72-hour TTL (Time To Live) using HTML
- Implemented concurrent HTTPS requests with multi threading and coroutines using Celery, Flask, and AsyncIO
- Configured multi-core processing through Redis server communication

Bechtel Plant Machinery Inc | *Computer Engineer (Active Secret level Security Clearance)*   Jun 2024 – Sep 2024
- Designed a PCB to control a custom PTZ camera, utilizing I2C and DSI protocols, saving the company over $10,000
- Adapted quickly to new software by teaching myself KiCAD in under 2 weeks
- Implemented Power Over Ethernet (POE) and reduced power consumption of previous prototype by 30%

Dartmouth College | *Quantum Computing Research Assistant*   Aug 2022 – Sep 2023
- Drove a design project modeling and machining 3D EM resonator cavities for superconducting circuits
- Streamlined prototyping process by simulating responses to different EM signals in Ansys HFSS
- Collaborated with team members to integrate superconducting circuit designs into 3D optical Qubits
- Illustrated multi-part blueprints of Qubit models for machining using AutoCAD

Dartmouth Biomedical Engineering Center | *Computational Research Assistant*   Aug 2022 – Jun 2023
- Automated image analysis in Python for Polymer Fatigue Crack Propagation Tests
- Created reference point detection using Numpy and color gradients analysis
- Created a user interface to live update data using Pandas and OpenCV
- Reduced time needed by over 60% for researchers to analyze Polymer fatigue characteristics

PROJECTS

DFR Electric Car Traction Control System | *Embedded Systems, C, Signal Processing*
- Programmed in C a closed loop digital control system to regulate torque output and reduce wheel slip
- Configured embedded front wheel speed sensing using STM-32 microprocessors and CAN bus communication
- Implemented digital signal wheel speed filtering through custom data structures in C

Standalone Search Engine | *C, Data Structures, Linux Shell Scripting, Database Design, GIT, Makefile*
- Designed a crawler, indexer, and querier in C
- Engineered and ran comprehensive Bash script tests for each component
- Utilized GIT version control flow for collaborative work

Klister spreading tool – Cross Country Ski Wax Applicator | *C++, Embedded Systems, SolidWorks*
- Led designing and creating an automated electric heating tube to optimize Klister wax viscosity
- Programmed a digital control loop in C++, maintaining optimal temperature range in the heating tube
- Filed and received provisional patent for design

Field-Programed Gate Array Morse Code Translator | *VHDL, Digital Circuit Design, Component testing*
- Utilized VHDL to program an FPGA, enabling it to take keyboard signals and output audible beeps in morse
- Assumed sole responsibility within a collaborative team environment due to my partner's inability to participate
- Developed a testbench for component-level verification of ASCII-to-morse translator

SKILLS

Programming: Python (Asyncio, Flask, Celery, Tensorflow), C, Javascript, HTML, Java, VHDL, Bash, GIT
CAD: KiCAD, LT Spice, Ansys HFSS, SolidWorks
Soft Skills: Documentation, Adaptability, Time Management, Public Speaking, Quick Learner, Advanced Russian