JULIAN HERMAN

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SUMMARY

Focused undergraduate computer scientist passionate about creating concise, readable code. Seeking to leverage my strong mathematical reasoning skills and experience in cross-team collaboration to contribute to innovative projects and improve myself.

EDUCATION

Rutgers, The State University of New Jersey - New Brunswick, N.J. ***09/2020 – 07/2023***
B.Sc. in Computer Science | *Minor in Mathematics* – expected July of 2023
Major GPA: 3.959 | Cumulative GPA: 3.948

Stevens Institute of Technology - Hoboken, N.J. ***08/2017 – 05/2018***
Completed 22 credits towards a *B.Sc. in Computational Physics / Physics*
Major GPA: 4.000 | Cumulative GPA: 4.000

The International School of Macao - Taipa, Macao ***08/2011 – 06/2013***
Accreditation for 7th and 8th grade
Recipient of the *Outstanding Achievement in Science* award for *2011* and *2012*

ACADEMIC PROJECTS

Prolog Interpreter | *OCaml* | *Principles of Programming Languages* ***2022***
Implemented both a deterministic (supporting backtracking and choice points) and a non-deterministic Prolog Interpreter in OCaml.

Optimized Matrix Multiplication | *C* | *Computer Architecture* ***2022***
Implemented a dynamic programming algorithm in C to multiply a chain of matrices with minimal operations and optimized performance for use with a simulated cache by applying cache blocking.

Huffman Coding | *Java* | *Data Structures* ***2021***
Implemented a Java class containing methods for the Huffman Coding *encoding* and *decoding* processes.

COURSEWORK

Principles of Programming Languages | Numerical Analysis and Computation | Intro to Computational Robotics | Deep Learning | Compilers | Systems Programming | Linear Optimization | Differential Equations | Multivariable Calculus | Intro to Linear Algebra | Math Theory of Probability | Electricity and Magnetism | Circuits and Systems | Dynamical Models in Biology

SKILLS

Software: C, OCaml, Python, Java; Linux; GDB (GNU Debugger); Git
Hardware: Oscilloscope; multimeter; circuit layout and soldering; high-voltage experimentation; 3D Printing

EXPERIENCE

Amazon Delivery Driver - Callen Logistics LLC, N.J. ***06/2022 – 11/2022***
Safely navigated roadways in company vehicle to deliver 300-400 packages per shift while adhering to protocol to resolve issues and maximize customer satisfaction.

Automation Control Technician - Bowery Farming Inc., N.J. ***12/2018 – 07/2019***
Operated a state-of-the-art automation system that controlled an indoor vertical farm; collaborated with engineering teams to troubleshoot both software and hardware; implemented system improvements that yielded healthier crops and measurably increased floor productivity.

Teacher's Assistant - Math Circles, N.J. ***01/2018 – 05/2018***
Taught and motivated elementary students in mathematics under teacher's supervision; responsible for breaking down difficult problems prepared by Stevens Institute of Technology Math Department and presenting them in an engaging way.

Volunteer First Aider - Vernon Township Ambulance Squad, NJ ***06/2015 – 06/2017***
Assisted lead EMT on emergency calls; provided first aid knowledge, measured blood pressure, pulse, respirations, etc. Maintained inventory of the rig and performed routine cleaning/sterilization.

HONORS/AWARDS

- Rutgers SAS Excellence Award: Ervin S. Fulop Scholarship recipient ***2022***
- Science Department Award, Vernon Township High School ***2017***
- First Place - Sussex County, N.J., MERCK State Science Day Test for Chemistry ***2017***

** Prefer to relocate*

PERSONAL PROJECTS *

Virtual Prescence Device ***2017***

Designed, 3D-printed, and assembled a virtual presence robot controllable over the web via SSH utilizing an Arduino microcontroller (code written in C++), servo motors, and a tablet to serve as the interface (camera for vision and networking for controls).

Music Waveform Display ***2017***

Modified inner circuitry of a CRT-TV to function as a basic oscilloscope that displays the waveform emitted from an aux cable.

Magnet-boots ***2016***

Modified microwave-transformers to function as powerful electromagnets and fastened them to boots to walk / hang inverted on steel beams (inspired by inventor / YouTuber Colin Furze).

INTERESTS AND ACTIVITIES

- Functional Programming **|** Compiler & Language Design **|** Multi-Robot Systems **|** Emergence **/** Swarm Intelligence
- Rutgers University Outdoors Club | Stevens Society of Physics Students | Computer Science Club | Climbing and Mountaineering Club
- Astronomy & Astrophotography | Weightlifting | Rock climbing | Backpacking & Hiking

References furnished upon request

***** *More on my informal website: julianbherman.github.io*