

Seth Knights

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EDUCATION

The University of Chicago

Bachelor of Arts in Computer Science | GPA: 3.95/4.00

Chicago, IL

Expected, June 2022

Catlin Gabel School

Diploma | GPA: 4.00/4.00

Portland, OR

June 2022

EXPERIENCE

Argonne National Laboratory

Research Assistant

Chicago, IL

June 2023 – August 2023

- Worked with Dr. Benjamin Blakely in the Strategic Security Sciences division on the development of autonomous intelligent cyberdefense agents, specifically for applications in autonomous vehicles. Implemented a proof-of-concept agent that monitored vehicle cybersecurity concerns by connecting it to an existing simulation environment with Python and ROS.

Professor Nathan Hill, Trinity College Dublin

Research Assistant

Portland, OR (Remote)

May 2022 – June 2022

- Collaborated with Professor Hill to revive previous work between Professor Hill and Dr. Xun Gong on the computer assisted reconstruction of proto-languages, finishing a complete proof of concept and submitting a paper.
- Debugged, reconstructed, and rewrote Hill and Gong's previous work in Python and Javascript.
- Created a Docker image for future ease of use, which was successfully deployed by Professor Hill and numerous colleagues.

Fosshost

Core Volunteer, User Experience

Portland, OR

November 2020 – July 2022

- Build and managed all front-end infrastructure, including Fosshost's main site and server management dashboard, using Javascript and REST APIs, helping to grow the organization from supporting less than 50 to 200+ open-source projects.
- Coordinated with designers and organization leaders on implementation.
- Independently designed and built a server management dashboard used by over 50 supported projects.

FRC Team 1540

Team Member, Robot Programming Department

Portland, OR

July 2020 – June 2022

- Wrote all vision capture, processing, calculation, and auto-aim code for the team's 2022 FRC competition robot using Java, helping to rank the team in the top 25 of over 120 teams in the PNW district.
- Developed multiple community service projects, all in Javascript, including a contact-tracing app used by Catlin Gabel School from September 2020 – March 2021 to help meet government regulations.

LEADERSHIP & ACTIVITIES

University of Chicago Robotics

Member

Chicago, IL

September 2022 – Present

- One of a team of four who lead design through to construction of the clubs' first ever collegiate combat robot. Designed, CAD modeled, machined, and built the robot's spinning weapon system, as well as various other robot sections.

SEDS-UChicago

Member

Chicago, IL

September 2022 – Present

- Built my very own high-powered model rocket, successfully launching it to gain my NAR L1 certification. Current member of longer term projects for both quantum Cubesat communications and high-powered rocketry competitions.

Catlin Gabel Mock Trial

Captain

Portland, OR

September 2018 – March 2022

- Managed and organized 30+ members as overall club captain, successfully leading the team to a place at the state competition. Conducted auditions, managed general correspondence, and bi-weekly planned practices.

National Security Language Initiative

Finalist

Bursa, Turkey

June 2022 – August 2022

- Selected as a finalist and participated in the U.S. Department of State's National Security Language Initiative for Youth, nominated as an exceptionally successful student. Studied abroad in Bursa, Turkey for six weeks, staying with a host family and participating in intensive language immersion.

PROJECTS

Grafana Network Weathermap Plugin

January 2021 – Present

- Developed the only modern Network Weathermap plugin for the open-source monitoring platform Grafana, using entirely SVG manipulation in React (Javascript). Approved as a community plugin for Grafana's plugin marketplace with over 90,000 downloads. Managed updates using Github Actions for CI/CD, with Docker for development and testing.

SKILLS

Computer: Proficient in C, Javascript (incl. React, Svelte), Python (incl. Flask), Java, REST APIs, HTML/CSS.

Familiar with Linux Environments, Docker, Autodesk Fusion 360, Adobe Premiere Pro and After Effects.

Languages: Turkish (ACTFL Intermediate)