

Duncan Joly

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Education

Bachelor of Science in Computer Science

Expected May 2026

College of Science and Engineering and College of Liberal Arts, University of Minnesota - Twin Cities, Minneapolis, MN

- Related coursework: Python, Java, advanced programming principles, computer networks, linear algebra
- 3.48 GPA

Skills

- **Technical:** OpenAirInterface 5G, Microsoft Windows, Linux/Ubuntu CLI, computer hardware knowledge, data collection and analysis, strong knowledge of office software (esp. Google Workspace suite), Visual Studio Code, IntelliJ IDEA, PyCharm, Postman (API Fundamentals Student Expert certification), Git, GitHub, software engineering, general-class amateur radio licensee
- **Programming languages:** Python, Java
- **Foreign language:** Modern Standard Arabic (Intermediate level), French (Intermediate level)

Objectives and Interests

- Ecological sustainability, network and data security, human rights, inclusion, computer networks, internet access improvement

Research Experience

U of MN Networking Research Group - Minneapolis, MN - Undergraduate Research Fellow

February 2023 - Present

- Implemented pathway for live parameter customization in simulated 5G network using Eurecom's OAI and FlexRIC
- Conducted networking efficiency research project using Python, published findings on arXiv (*arXiv.2311.10936*)
- Contributed to the Linux kernel and open-source research software platforms
- Assisted Ph.D students with data analysis, software engineering, and system configuration for academic research papers
- Accepted National Science Foundation "Research Experiences for Undergraduates" grant to continue research
- Developed technical research skills including literature reviews, project management, professional teamwork, and data analysis

Work Experience

University of Minnesota - Twin Cities, Minneapolis, MN - Student A/V Tech

September 2022 - Present

- Operated audio/visual equipment for events on campus, including research presentations, remote conferences, and film nights
- Assisted with equipment setup and operation and provided troubleshooting assistance to various clients

Tech Academy, Little Canada, MN - Support Staff

June 2021 - August 2021

- Repaired, reconfigured, and cataloged over 500 computers to ensure smooth classroom experience
- Improved and implemented inventorying process by installing and updating software with PDQ Deploy

Leadership and Volunteer Experience

Hack Club, Roseville, MN - Leader

September 2021 - June 2022

- Designed curriculum for and provided support to 20-member chapter of Hack Club
- Instructed members on penetration testing techniques, including Kali Linux and Aircrack-ng, and use of GitHub and VS Code
- Created practice problems and example projects for members in Python and Java
- Collaborated with national organization leadership and school staff to ensure best experience for members

Democratic Socialists of America (DSA) - Spoke maintainer, National Tech Committee member

July 2021 - Present

- Designed, drafted, and implemented vetting process at the national level of the organization for future volunteers
- Maintained chapter Spoke deployment (mass-texting service) which contained contact information for over 1200 members

RAHS Progressives, Roseville, MN - Leadership Committee, Social Media/Tech Leader

Summer 2021 - Spring 2022

- Facilitated meetings with group members and local government officials, planned events, and recruited over 10 members
- Managed several social media pages and a website, along with online resources such as Slack and Google Suite
- Educated fellow high school students on politics and community opportunities in the Roseville and Minneapolis, MN areas

ISD#623 LGBTQ+ Equity Committee, Roseville, MN - Member, Policy Review Group Leader

Spring 2021 - Spring 2022

- Created and participated in committee focused on LGBTQ+ inclusion in district schools
- Facilitated partnership between teachers, school board members, and district administration to draft inclusion policy