

Duncan Joly

duncan@duncanjoly.com • +1 (612) 242-6979 • Minneapolis, MN • duncanjoly.com • linkedin.com/in/duncan-joly

Objective

- Motivated CS student with experience in spacecraft/wireless communications and software systems seeking industry positions in software engineering, quality assurance, or technical roles applying my background in mission-critical systems and rigorous development practices.

Education

Bachelor of Science in Computer Science

May 2026

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

- 3.55 overall GPA, 2x College of Science and Engineering Dean's List
- Related coursework: Python, C, Java, operating systems, computer networks, secure software design, distributed systems, databases
- Lando Scholar, Tran Scholar, member of UMN Alumni Mentorship Program

Select Work Experience

Wireless Research Intern - Two Six Technologies - Arlington, VA / Remote

May 2025 - August 2026

- Developed and implemented comprehensive GPS emulation suite from open-source components for HackRF software defined radios to be used for testing infrastructure development company-wide
- Added support for new software defined radio platforms in company SDR abstraction layer, simplifying future development efforts
- Wrote unit test suites providing >95% code coverage for reliable product delivery
- Utilized GitLab for version control and collaborative development, improving team efficiency

Communications Team Lead - U of MN Small Satellite Research Laboratory - Minneapolis, MN

February 2024 - May 2026

- Implemented data transfer between spacecraft and ground station network using UDP packets in GNURadio
- Worked with industry and governmental experts to verify software interface reliability for mission-critical satellite operations
- Managed communications team of 8, delivering 2 concurrent satellite projects
- Coordinated efforts on simultaneous projects, including frequency acquisition, data visualization dashboard, and software engineering
- Designed and implemented persistent Point-to-Point Protocol link over RS-232/UART using pppd and systemd
- Worked with Naval Postgraduate School to allow use of 13-site MC3 satellite ground station network by our IMPRESS satellite
- Wrote interface to Space Test Program communications controller (DICE) on the International Space Station
- Designed and implemented lightweight file transfer protocol for use in embedded environments; implemented working file reconstructor

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

February 2023 - May 2026

- Implemented pathway for live parameter customization in simulated 5G network using Eurecom's OpenAirInterface and FlexRIC
- Conducted networking efficiency research project using Python, published findings on arXiv (DOI 10.48550/arXiv.2311.10936)
- Contributed to the Linux kernel and open-source research software platforms including OpenAirInterface and FlexRIC
- Assisted Ph.D. students with data analysis, software engineering, and system configuration for academic research papers
- Collaborated with lab members on conference and journal research (DOI 10.1145/3708468.3711877), (10.1109/TON.2026.3686751)
- 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

Student A/V Technician - University of Minnesota - Minneapolis, MN

September 2022 - May 2026

- 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

Leadership and Volunteer Experience

Student Member - U of MN College of Science & Engineering Curriculum Committee - Minneapolis, MN

September 2025 - May 2026

- Contributed to the academic process by providing student perspective on new course proposals and major changes to existing courses

President - Amateur Radio Club at the University of Minnesota - Minneapolis, MN

February 2025 - May 2026

- Successfully registered club with University administration, growing membership by over 100%
- Worked with College of Science & Engineering faculty and staff to promote the interests of the amateur radio community on campus

Leader - Hack Club - Roseville, MN

September 2021 - June 2022

- Designed curriculum for and provided support to 20-member chapter of Hack Club
- Instructed members on security and vulnerability assessment, 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

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

Spring 2021 - Spring 2022

- Facilitated partnership between teachers, school board members, and district administration to draft LGBTQ+ inclusion policy
- Educated fellow high school students on politics and community opportunities in the Roseville and Minneapolis, MN areas

Skills and Interests

- **Technical:** amateur radio, bash, CLion, Git, GitHub, GitLab, Google Workspace, HF/UHF/VHF wireless communication techniques, IntelliJ IDEA, Linux, Microsoft Office, network architecture, OpenAirInterface, Postman, PyCharm, REST APIs, serial communication (RS-232/422), software defined radio, software engineering, telecommunications, SQL, TCP/IP, V2X, web development, Wireshark
- **Programming languages:** C, C++, Java, Python 3
- **Spoken languages:** Modern Standard Arabic (Intermediate level), French (Intermediate level)
- **Professional associations:** Association for Computing Machinery (ACM), ACM SIGCOMM, ACM SIGMOBILE, Institute of Electrical and Electronics Engineers (IEEE), IEEE ComSoc, Internet Society
- **Interests:** Human rights, digital privacy, network & data security, RF, sustainability, trust establishment, wired & wireless telecommunications