

Jess Sullivan

jess@sulliwood.org | (617) 795-6912 | New England

transcendsurvival.org | github.com/Jesssullivan | linkedin.com/in/xoxdjess

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*Cover Letter,
Resume,
Fun Facts,
References*



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Technical Cover Letter

I am Jess Sullivan- a Systems Analyst at Bates College, a passionate technical educator, an avid birder and established full stack contractor. Find below a cover letter highlighting my recent work history, an up-to-date technical resume and eight professional references. Please feel welcome to get to know me a bit better on my [personal blog](#) as well.

I moved to Ithaca at the end of 2019 while working with the Lab of Ornithology on the development and launch of Merlin Sound ID by building out the ML pipeline that powers it. Through this ongoing project, I have enjoyed learning from and contributing to a range of software, machine learning research and widely recognized open source libraries and projects adjacent to MerlinVision including Visipedia, Mushroom Observer and fft.js.

Prior to moving to Ithaca, scientific exploration through analytical computing, free and open source software and hardware initiatives defined my collegiate experience at Plymouth State University (PSU) and ongoing work as an educator and staff member with the University of New Hampshire (UNH) system. As an ongoing collaborator on ornithological initiatives with professor Dr. Leonard Reisma and his graduate students, I've gained significant experience in developing data-centric software with a variety of languages, including Python, R, TypeScript and Chapel, along with a number of web technologies and frameworks. Through this work I gained expertise in deploying web interfaces, demos, and visualizations with a variety of cloud compute providers, including the frequent use of Heroku (via Node.js and Flask), and Google's App Engine (via Docker). For larger research demands following the field seasons of 2017 and 2018, I served as system administrator for AWS services across RHEL and Ubuntu EC2 AMIs for number crunching, academic collaboration, and public-facing geoanalytical demonstrations.

The geospatial nature of avian research has led to extensive work with numerous municipal organizations. Through the PSU connection, I was able to develop web services and provide GIS software support for projects with the National Park Service and the New Hampshire towns of Franklin, Berlin, and Manchester. I was fortunate to have the opportunity to share some of the geospatial wood warbler projects at the American Association of Geographers (AAG) conference in Washington D.C. in 2019. I taught both Advanced GIS Applications and GIS Programming classes at Plymouth State, assisting students learn Python and database theory in the context of geospatial data, resulting in a GIS Certification from PSU and GIS programming certificate pertaining to enterprise applications from ESRI.

Exploring and contributing to open source software and hardware projects has developed into a core passion of mine similar to that for conservation and birding, and through founding PSU's Hacking Club while a student I became intimately involved with the development of Plymouth State's D&M Makerspace. With the Makerspace, I've served as a Technical Lead for a number of external client projects, including research and production of PPE for local hospital and emergency workers in NH, leading product development for an ADA sponsored motorsport startup, leading the design and manufacture of FPGA demo hardware for a cyber security startup and serving as TA and tutor for the first undergraduate electromechanics classes at PSU.

Following the successful launch of Merlin Sound ID, I served as the Fabrication Laboratory Manager for the DLA Makerspace, a small research focused rapid fabrication lab nestled within Cornell's Department of Landscape Architecture with CALS where I taught a variety of classes on iterative design with rapid prototyping technologies available within the laboratory for students, faculty and staff alike. From this period up through the present day whilst residing in Tompkins County, I grew intimately involved in the fabric of the area and held a number of high-impact board positions for organizations in the Fingerlakes Region of NY. I served as the Membership Chair, Education Coordinator, and 3d Printing captain at the Ithaca Generator, a 501(c) non-profit makerspace located in Ithaca during a time of significant growth (2020 through 2022). Additionally, I've served as a co-director of a large, transfemme-focused LGBTQ support group (2021-2023) and have enjoyed coaching hundreds of students through my popular "Rapid Fabrication for 3d Printing" course at Ithaca Generator and the Odessa Public Library over the last three years.

I am happy to currently be nestled in the beautiful Maine Countryside in the Lewiston/Auburn area, continuing my work as a Systems Analyst and full stack contractor. While I am not actively looking for additional clients, please feel welcome to reach out regardless- lets chat!

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Technical Resume

Systems Analyst @ Bates College (2024-Present)

- Building and maintaining reliable, scalable enterprise systems directly supporting staff, faculty and the technical ILS team. My duties span the responsibilities of an on-call Sysadmin and interdisciplinary Systems Engineer.

Computer Vision Software Engineer @ Macaulay Library (2019-2021)

- Developed & launched **Merlin Sound ID** & The Machine Learning Blog @ Macaulay Library. Worked on the R&D and implementation of internal fine-grained machine learning annotation tools for audio classification. Built internal classification and model evaluation web APIs. Streamlined Macaulay Library MLOps and asset ingestion pipeline.

Fabrication Laboratory Manager for the Landscape Architecture Makerspace @ Cornell CALS (2021-2022)

- Developed and taught rapid fabrication curricula for DLA students and faculty.

Full Stack Consulting & Contracting:

- Developed web GIS tools used by the **National Park Service, Foundation for Healthy Communities, GPRED**, the **Northern Border Regional Commission**, presented at the 2019 **AAG conference**
- Numerous contributions to open source projects including **Klipper Firmware, Joplin & FFT.js**
- Work with startups including **Dover Micro (2017)** and **Adaptive Motorsport (2018)** and the creation of numerous FOSS automation tools and GIS utilities on Github
- **Machine Learning with MushroomObserver.org and Visipedia:** Collaborated on the development and adoption of fine-grained image classification models among crowd-sourced community science niches
- Full Stack Engineer for numerous large and small businesses including **Massage Ithaca, Rossel & Co**, Tetrahedron Services, Moonlight Coworking and many, *many* more

Full stack development technical experience:

- Extensive work within **Flask, Express and SvelteKit** based stacks; fluent with **Python & TypeScript**
- Professional experience with and demonstrated proficiency with numerous languages including **Chapel, C++, R**.
- Templating engines including **Pug, Jinja2** and **Hugo**
- Integrations with the **Stripe APIs, oauth, Duo, hcaptcha, leaflet**, common G-suite applications and MembershipWorks
- **Over 8 years of professional & enterprise** experience with WordPress and deployments to **AWS (EC2, Lambda, Beanstalk), GCP, Digital Ocean & Heroku**; extensive work with **Nginx, Apache2, mongodb & postgres**
- ESRI web services (storymaps, ArcGIS pro, Arcade expression language)

3d Modeling & 3d Geoanalytical technical experience:

- **Over 7 years** of professional experience modeling, simulating and scripting and teaching popular CAD packages including **Fusion 360 & Inventor** (python & C++), **Sketchup** (Ruby), **Meshmixer, openscad, ArcMap & ArcGIS, QGIS** and **Blender**
- On-demand, one off 3d modeling and printing services
- Exotic material 3d printing (e.g. **annealed thermoplastics, end-use polypropylene parts, PEG phantom network synthesis, sintered metal FDM printing**), bespoke machine tool design & rapid prototyping
- **Over a decade** of professional and personal experience with **ultra-secure personal computing**, esoteric network protocols and the implementation of **personal DaaS stacks**

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Resume, continued:

Volunteer, community involvement and board positions:

- **First Fellow @ the D&M Makerspace at Plymouth State University (“PSU”) (2017-2019)**
 - Taught **Advanced GIS Programming & Intro to Electromechanics** at PSU
- **Membership Chair and 3d Printing Captain** of the Ithaca Generator (“IG”) (2020 – 2022)
 - Led IG, a local 501(c)3 non-profit Makerspace through a period of rapid growth, profitable outreach and massive educational expansion
- I remain an active member of the **Voron, Annex Engineering, Klipper, Mainsail, Railcore, Doomcube, Kralyn3d, Rack Robotics & Millennium Machines** open source rapid fabrication developer communities
- I have coached hundreds of students through my popular, portable & public-facing “**Fusion 360 for 3d printing**” class series throughout New York
- I served as a **co-director** of a very large transfemme-focused support group (2021-2023) in New York. Feel welcome to **ask me** about this organization and this significant and **intense chapter** of my life as a highly visible community organizer.
- I currently (2024) serve as a **co-founder** of a rapidly growing mutual aid, direct action mental health support group for trans and queer adults. Feel free to **ask me** about this organization.

Some more fun facts about me and my eclectic work history:

Professional Photography & Videography:

I was an event and wedding photographer and later videographer for years before I switched gears and went to college, following a lively trade path as a young photographer.

- I cut my teeth professionally with the **world renowned aerial photographer Alex Maclean** and with **Mike Nyman Wedding Photography** prior to going into business as **J.S. Event Photography**.
- **I wrote** (and taught for three years!) **the youth photography curriculum** at the **Joppa Flats** and **Drumlin Farm** Mass Audubon Wildlife sanctuaries, **programs still going strong** to this day!
- Some public clients and superlatives of this chapter of my life included **extensive** work for the **corporate branding offices** of the **YMCA**, **The Watertown Savings Bank**, photography and videography for the **YCCA** youth programs, **FUUSN** and serving as the **Staff Photographer for MCCS @ PSU** among others.
- My work has been featured, displayed and sold and numerous photo shows, venues and art sales throughout New England, including many shows with **Celebrate Newton**, **The Newton Public Library**, **The Pease Public Library** in NH, **Newtonville Cinema**, **Just Next Door Card Shop**, **The Newton Camera Club**, **Broadmoor Wildlife Sanctuary**, featured in the **Newton Tab newspaper** and many others.

Bartending & Baking:

I really enjoy bartending and cooking as a social hobby, adjacent to my oddball enthusiasm for a number of esoteric spirits, distilling technologies, gluten and my adherence to various intersectional subcultures. 🐾❤️

As such, I’ve held a number of delightful evening bartender & bakery positions, and hope to return to such casual jobs in the future:

- I was a casual Bagel Baker at **Tandem Bagel Co** in Northampton MA throughout the Spring of 2024. I made many terrific friends here and learned a great deal about baking professionally.
- I was a bartender and event organizer at **Modern Alchemy Game Bar** in Ithaca from 2022-2024. I organized and hosted monthly Goth Nights, sashes, art shows and many other private functions for various organizations I’ve been affiliated with in this cozy board game bar.
- I was a bartender at **The Downstairs** Listening room & Tavern as well as at **the Watershed** in New York.

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References:

Grant Van Horn: gvanhorn@cornell.edu

- I worked alongside Grant (Grant was the Lead ML Engineer for the Merlin AI project) as a Computer Vision Software Engineer on the [Merlin Sound ID Project](#).

Len Reitsma: leonr@plymouth.edu

- I work extensively with Len on a wide variety of wood warbler projects as a field researcher (years of point counts, warbler banding, complex geoanalytical analysis in R, etc)- [link](#), [link](#)

Erica Rydberg: erika.rydberg@gmail.com

- I worked with Erika over a duration of 4 years on a wide variety of projects while expanding general fabrication services at Plymouth State University into the [Draper & Maynard Makerspace](#)- [link](#), [link](#), [link](#).

Kirsten Lindquist: kirstendiane@gmail.com

- I worked with Kirsten during my time building and teaching photography curriculum for a number of Mass Audubon youth programs. At the time, Kirsten was the youth education coordinator and camp director at Joppa Flats.

Zack d'Arbeloff: zdarbeloff@massaudubon.org

- I worked with Zach (at the time, Zach was the interim camp director at the Drumlin Farm Mass Audubon wildlife sanctuary) during my time developing and teaching photography curriculum for a variety of Drumlin Farm youth programs.

Jonathan Westerling: alchemygamebar@gmail.com

- I worked with Jonathan as a part-time staff member and event organizer for Modern Alchemy, a local board game bar and event space.

Matt Schloss: mds348@cornell.edu

- I worked with Matt primarily on developing web-based data annotation tools for Macaulay Library's international Merlin Sound ID dataset project.

Jen Whitaker: jenwhit12@gmail.com

- Jen is a longtime small business client of mine for whom I've served as a full stack web engineer on a number of complex and bespoke web projects.

Timeline:

- Following an offer and formal acceptance, I am available to begin work immediately.