

Jess Sullivan

[jess@sulliwood.org](mailto:jess@sulliwood.org) | [Linkedin](#) | [AngelList](#) | [Blog](#) | [CV](#) | [Github](#)

*Technical work:*

- Computer Vision Software Engineer with the Macaulay Library & Merlin AI teams. Assisted in the development and launch of Merlin Sound ID. Aided in R&D and the implementation of internal fine-grained machine learning annotation tools for audio classification. Built internal classification and model evaluation web APIs. Assisted in the streamlining of Macaulay Library MLOps and asset ingestion pipeline.
- Expertise in an agile development environment includes scripting, API building, automation & visualization with Python & R (associated libraries including Pandas & NumPy, Tensorflow, matplotlib & jupyter, ArcPy & the QGIS CLI, tidyverse & ggplot2, etc), integration with cloud services (including AWS, GCP, Docker, Heroku, ArcGIS Online)
  - Full stack experience spans a variety of web technologies (Flask, Node JS, React JS, Leaflet JS, Shiny R) and services, as well as familiarity with platform languages & frameworks (SwiftUI, React-Native)
  - Extensive work with DEM, LiDAR, OpenStreetMap data, topographic modeling for remote sensing & digital reconstruction
- *Public geospatial clients include:*
  - The National Park Service (developed geospatial web services with R, ArcGIS, Google Maps API)
  - The Foundation for Healthy Communities & GPRED (developed GIS project website & data cleaning scripts with R, Bash, ArcGIS Online)
  - The Northern Border Regional Commission (developed web GIS data service with R, arcade expression language)
  - Graduate ornithology at Plymouth State University (R, Python, QGIS, etc for academic literature)
  - Geospatial consulting & avian field technician with Dr. Lenoard Reitsma (Plymouth State) and his graduate students (data collection cleaning / analysis, database management, cartography & data visualization), additional grant work with Cornell's eBird dataset (2017-2019)
- D&M Makerspace Fellow (Plymouth State University)
  - Technical Lead, hardware & software developer for Makerspace clients & partners. Curricular consultant for University faculty and students.
  - Notable D&M projects include:
    - Led hardware & software development for a local motorsport virtualization startup. Employed numerous collaborative rapid fabrication technologies (Fusion 360 cloud & git as VCS, iterative design via laser & plasma cutting, 3d printing) to bring client's proposal to a complete, provisionally patented demonstration.
    - CoreGuard Demo Hardware- designed & manufactured Dover Microsystems's FPGA display hardware for their CoreGuard product Demonstrations. Maintain the iterative designs as free, open source hardware on GitHub.
    - Designed and manufactured COVID-19 relief equipment (face shields, ventilators, masks), distributed to a variety of NH emergency services and hospitals.

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- 6+ years experience with CAD / CAM software (Fusion 360 & numerous Autodesk products, Sketchup Pro & Ruby, FreeCAD & Python) and hardware (CNC hardware design & implementation, laser & plasma cutting, plastic & metal 3d printing, etc)
- Presenter at the 2019 American Association of Geographers conference (web-based GIS tools with GDAL & R, ESRI's ArcGIS Online)
- Python for GIS teaching assistant, Plymouth State geospatial lab tutor (2019)
- Outdoor composition leader & Teaching Assistant for Plymouth State University (2018)
- Robotics / Electromechanics Teaching Assistant at Plymouth State University (2020)

*Additional work experience:*

- Co-author, "Black-capped chickadee (*Poecile atricapillus*) feeding Hermit Thrush (*Catharus guttatus*) nestlings", *Northeastern Naturalist*, <https://doi.org/10.1656/045.026.0213>
- Outdoor Photography instructor for Mass Audubon- wrote & led (summers 2018, 2019) photography curriculum for Joppa Flats and Drumlin Farm sanctuaries.
- Professional commercial, wedding, and fine art photographer as J.S. Photography (2014-2020)
  - Public clients include corporate YMCA, The West Suburban YMCA, the Worcester Craft Center, Mass Audubon, Watertown Savings Bank, PSU Marketing & Communications (commencement, marketing content, partner events, fundraisers), others.
  - Second camera & consulting for Alex Maclean aerial photography (2013, 2014), Mike Nyman Photography (2015).
  - Artwork has been featured and sold throughout New England, including appearances in Celebrate Newton, Mass Audubon Sanctuaries & Shows, the Newton Tab, the Newton Free Library, the Pease Public Library, others.

*Education:*

- BS in Ecological Education & Analytics, GIS certification, IDS (Interdisciplinary Studies) at Plymouth State University (2020), magna cum laude
- Founder and President of PSU Creation Technology and Hacking Club, S.O.A.R. Trip Leader
- Graduated High School in Belmont, MA