Edward Xu

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EDUCATION

University of Massachusetts Amherst *Sep. 2020 – May 2024*

- B.S. Environmental Science — Amherst, MA
- Geographic Information Science and Technology Certificate
- Commonwealth Honors College with Great Distinction | **GPA 3.61/4.0**

Relevant Courses: Python for ArcGIS, Spatial Databases and Data Interoperability, Analysis of Environmental Data, Applications in UAS, Inorganic Contaminants, Remote Sensing, and Image Interpretation

EXPERIENCE

Department of Resource Economics – UMass Amherst *Sep. 2023 - May 2024*
Researcher/Honors Thesis Amherst, MA

- Built suitability analysis in ArcGIS Pro to evaluate 900k+ wind turbine locations using WGS84.
- Developed automated Jupyter workflow to process LCOE calculations using marine geospatial data.
- Created rasterized choropleth maps visualizing cost variables across both coasts of the United States.
- Synthesized 30+ peer-reviewed studies on offshore wind impacts to marine ecosystems and bird migration.
- Applied spatial joins, buffers, intersects, calculate geometry, and geodesic distance tools within ArcGIS Pro.

Department of Earth, Geographic, and Climate Sciences – UMass Amherst *Sep. 2023 – Dec. 2023*
Teaching Assistant Amherst, MA

- Guided weekly, three hour, 50-student lab, answering lab questions, and helping with final projects.
- Demonstrated core geoprocessing tools for vector data including buffers, clips, dissolves, and spatial joins.
- Explained raster basics including cell size, resolution, reclassifications, DEMs, and basic raster math.
- Helped troubleshoot common projection, data import, and geoprocessing errors in lab exercises.
- Delivered one-on-one mentoring during four hours of weekly office hours outside of structured class time.

School for Field Studies *Sep. 2022 - Dec. 2022*
Researcher Queensland, Australia

- Conducted research on species diversity and carbon storage potential of regenerative agroforestry.
- Conducted species diversity analysis across 52 sampling plots using systematic transect methodology
- Utilized handheld GPS to map, measure, and document 9,000+ stems in field rainforest settings.
- Conducted statistical analyses in RStudio using ANOVA and Mann-Whitney tests.
- Established partnerships with local farmers to secure usage permission and develop program links.

Durfee Conservatory *Jan. 2022 – May 2022*
Greenhouse Assistant Amherst, MA

- Maintained 4,000+ sq ft greenhouse through systematic watering, pruning, cleaning, and feeding.
- Cared for a diverse collection of 1,300+ plant species, including rare tropical and desert specimens.
- Monitored environmental controls including temperature, humidity and ventilation.
- Enhanced Conservatory displays through plant curation and aesthetic arrangement.

Hyannis Yacht Club *Jan. 2023 – Present*
Server Hyannis, MA

- Managed up to 30 guests simultaneously, maintaining attentive and empathetic service for each guest.
- Anticipated customer needs by proactively asking relevant questions about order details.
- Maintained attention to fine details and ensured accuracy and timeliness of customer orders.
- Led shadow shifts to train new servers, providing real-time feedback on service standards and menu.

SKILLS

- **Data Processing –** PostgreSQL, Python (ArcPy, GeoPandas), R (sf, terra), SQL, Jupyter, Git, FME
- **Geospatial Analysis –** ArcGIS Pro/Online 3.1, QGIS 3.34, PostGIS, ArcGIS ModelBuilder
- **Imagery & Remote Sensing –** ENVI, Supervised Classification, DEM Analysis, Change Detection
- **Research & Field Methods –** GPS Units, Statistical Analysis, Technical Writing, Data Visualization