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Deven Biehler

Research Assistant / Data Scientist

github.com/Deven-Biehler
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TECHNICAL SKILLS

Languages	Python, SQL, R, Matlab
Tech Stack	PyTorch, Tensorflow, Scikit-Learn, Tableau, Parallel Programming, NetworkX, QGIS, GDAL

EDUCATION

Master of Computer Science (Data Science focus), Washington State University	Jan 2024 — Dec 2025
Bachelor of Computer Science, Washington State University	Sep 2020 — Dec 2023

EXPERIENCE

Research Assistant / Dr. Gebremedhin's Group <i>Washington State University</i>	Jan 2024 — Present <i>Pullman, WA</i>
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- Engaged in improving speed of geospatial data queries by creating a hierarchical data simplification method, enabling researchers to quickly perform geospatial analysis on data greater than 50GB.
- Designed and implemented a scalable data pipeline processing large LiDAR datasets through parallel chunking and multi-stage reduction algorithms.

UG Research Assistant / Dr. Karkee's Group <i>Washington State University</i>	Jun 2023 — Aug 2023 <i>Prosser, WA</i>
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- Utilized LiDAR (Light Detection and Ranging) and stereo vision, to enable robot to map and localize simultaneously in a dynamic environment allowing for autonomous orchard maintenance.
- Utilized Gazebo simulation to conduct rigorous testing of localization and mapping of orchard robot, eliminating 50% chance of collision with trees.

PROJECTS

Utilized ArcGIS software to demonstrate relationships between factors and cancer incidence rates.

ArcGIS Cancer Factor Dashboard https://github.com/Deven-Biehler/cancer-geo-visualization	Sep 2024 — Dec 2024 <i>Pullman, WA</i>
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- Developed a PyTorch-based machine learning model, utilizing Synthetic Aperture Radar data to autonomously identify regions at high risk for flooding.

Interpretable Flood Prediction using Sentinel-1 SAR Data https://github.com/Deven-Biehler/interpretable-flood-prediction	Sep 2024 — Dec 2024 <i>Pullman, WA</i>
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- Developed a PyTorch-based machine learning model, utilizing Synthetic Aperture Radar data to autonomously identify regions at high risk for flooding.

Disaster-Net https://github.com/Deven-Biehler/distribution-disaster-net	Sep 2024 — Dec 2024 <i>Pullman, WA</i>
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- Designed a system to model real-world constraints, incorporating factors such as stockpile capacities, varying household demand, road network safety considerations, and equitable resource distribution.

True Green-Index https://github.com/Deven-Biehler/true-green-index	Sep 2024 — Dec 2024 <i>Pullman, WA</i>
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- Leveraged PyTorch computer vision model to analyze satellite images to detect and classify 100+ green zones.
- This system efficiently processes large-scale geospatial data, demonstrating ability to facilitate urban planning, environmental monitoring, and sustainability assessments.

Time-Series COVID-19 Geospatial Visualization https://github.com/Deven-Biehler/us-covid-visualization	Sep 2023 — Dec 2023 <i>Pullman, WA</i>
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- Developed an interactive geospatial visualization to track the spread of COVID-19 over time using 18 months of data.
- Integrated time-series analysis with geospatial mapping in a Tableau dashboard to visualize infection hotspots and trends.