

DYLAN SCOTT

Portfolio | dylanscott.dev
Email | HelloDylanScott@gmail.com
Phone | 520 - 904 - 7105

EXPERIENCE

(Sorted by Relevance)

Lead Software Developer | Maps Team, Kagi Inc. Jan 2021 – Present

- Directly responsible for all aspects of design, implementation, and release of the [Kagi map platform](#) – a searchable global web-map for the privacy focused search engine Kagi.com
- Authored or directly edited nearly the entire javascript code base for the web-map platform -- UX/UI features including search, navigation, geolocation, POIs, interactive baselayers, etc...
- Worked alongside teams in dev-ops, machine-learning, and design on map deliverables of various timelines and scope for web-design, feature development, bug-tracking, testing, analysis

Founder | Tucson Pathways Oct 2018 – Present

- Created TucsonPathways.org; a route-planner web-map that provides cycling-directions focused on safer, quieter, more scenic bicycle-routing (see [Tech-Demo](#), [Slidedeck](#) or [Web-App](#) for more details)
- Routing engine software maximizes use of Residential Street-Network along with Traffic-Controlling Crosswalks, to bypass High-Traffic Roadways (web-map currently in pre-alpha development, as an operational proof-of-concept)
- Project utilizes OSM datasets, Mapbox-gl, and a customized Graphhopper routing engine, built in a vue-framework
- Daily-workflows involve: web-design in VSCode, QGIS, git, OSM-iD, Geofabrik, Overpass-Turbo, Mapbox-gl, Mapbox-Studio, Tippecanoe, Graphhopper, and numerous supplementary softwares and libraries
- Project has been featured in [Arizona Public Media](#) & [KVOA News](#)

GIS Analyst Intern | City of Tucson, Bicycle & Pedestrian Program May 2017 – Sept. 2017

- Analyzed methods used to generate the [Bicycle Network Analysis web-map](#) for the City of Tucson
- Utilizing city data along with open-source data from OpenStreetMap to validate the accuracy of Tucson's Bicycle Network Connectivity Score
- Worked in cost-benefit analysis for where to direct resources for future city bicycle infrastructure projects

GIS Research Analyst (Contractor) | Natural Infrastructure Program, World Resources Institute May – Nov 2014

- Developed all methods and geospatial analysis for the *Forests-for-Water Map Platform* – series of global map datasets intended for corporate audiences, that illustrate where green infrastructure can mitigate water management issues; using WRI's [Aqueduct Water Risk Atlas](#), [Global Forest Watch](#), & [Atlas of Forest Landscape Restoration Opportunities](#)
- Studied natural and anthropogenic processes affecting forestry, watershed hydrology, and land-use change; Created metrics to evaluate their impact on water security in a GIS-framework
- Led in-office meetings and directed project workflow; frequently briefed supervisors & colleagues on research findings
- Authored presentations, GIS datasets, project proposals, reports, maps, audience notes, blog posts, and infographics

GIS Hydrological Technician | Water-Use Program, United States Geological Survey March 2010 – Aug 2013

- Regularly modeled water-use and energy-use by watershed, state, and national boundary for agricultural, municipal, thermoelectric, industrial, mining, hydroelectric usage, as part of [The National Water Use Information Program](#) & [The Arizona Water Resources Reporting Program](#)
- Very well versed in industrial-agriculture practices and associated effects on water-use and land-use (e.g. irrigation systems efficiencies, crop consumptive-use, multi-cropping practices, GW vs. SW delivery systems, etc.)
- Designed object-oriented databases/equations to calculate statewide water-use, from user defined parameters and variables (for estimation models in agricultural, municipal, and thermoelectric water-use categories)

Project Coordinator Intern | Office of Sustainability, University of Arizona Jan 2012 – Jan 2013

- Developed expertise in a wide variety of sustainable technologies, their benefits and limitations
- Managed Water Harvesting Team – assisted in design and planning of rainwater-capture and flooding mitigation projects
- Gained experience with community outreach, grant writing, marketing, and earthworks design

Compost Officer | University of Arizona, Compost Cats June 2012 – June 2013

- City-wide student led operation, gathered 300,000 lbs/year of food-waste and reprocessed to compost
- Worked in education/outreach/sales programs with locals businesses & community organizations
- Gained experience, and newfound appreciation for farm operation and agricultural labor practices

PUBLICATIONS, PRESENTATIONS & HONORS

Conference Presenter | **Open Street Map - State of the Map 2022, Tucson Arizona** **April 2021**
Remote Mapping Informal Transportation Networks in the Developing World, (Trufi Organization Collaboration)

- Informal Transportation (such as pirate taxis, non-documented buses, etc. are commonplace in the developing world. Trufi worked with OSM volunteers on the ground to digitize and share these transportation networks to improve access to transport through South America and Sub-Saharan Africa.

Author | **Global Natural Infrastructure Opportunity Web Map (Draft Project Data)** **Nov. 2015**
Forests for Water Management Webmap (Draft)

- Natural Infrastructure (e.g. Forests, Wetlands, Riparian Vegetation...) has been proven to help mitigate various water risk (e.g. reduce flooding, regulate water chemistry, sedimentation capture...). As a Proof-of-Concept, global sedimentation risk was mapped and alongside is forest conservation and forest restoration efforts which would mitigate that risk.

Author | **Scientific Investigation Report, United States Geological Survey** **Nov. 2011**
Documentation of Methods and Inventory of Irrigation Data Collected for the 2000 and 2005 U.S. Geological Survey Estimated Use of Water in the United States, Comparison of USGS-Compiled Irrigation Data to Other Sources, and Recommendations for Future Compilations. Dickens, J., Forbes, B., Cobean, D., Tadayon, S.

- Marked as a *Publication of Note* by the USGS Office of Science Quality and Integrity
- Was one of approximately a dozen undergraduate student in the nation to be published with the USGS

Presentation (winner) | **Donald R. Davis Undergraduate Award, El Dia del Agua, Tucson AZ** **March 2011**
Analysis and Utilization of the Arizona Cropland Data Layer Map as a Source of Crop Acreage in Consumptive Use Estimates of Irrigation Water Use. Cobean, D., Whitaker M., Tadayon, S.

EDUCATION

Bachelor of Science, with Distinction | **Applied Mathematics & Environmental Hydrology** **May 2013**
University of Arizona, Tucson Arizona

Coursework Included: • Environmental Physics • Risk Assessment for Environmental Systems • Linear Algebra
• Mathematical Modeling • Field Hydrology • Atmospheric Science • Advanced Calculus • Hydrogeology

LEADERSHIP & VOLUNTEER

Covid-19 Vaccination Volunteer | **University of Arizona, Tucson AZ** **Feb 2021 – April 2021**
• On-site volunteer for patient check-ins and vaccination scheduling

Youth Climbing Instructor | **Rocks & Ropes Climbing Gym** **June 2018 – March 2020**
• Volunteered 1-on-1 with kids (ranging 4-16 years old), coaching in sport-climbing/bouldering

Board Member | **University of Arizona Sports Club Allocation Committee** **Sept 2008**
• Allocated \$45,000 in total, to various UA sports organizations, per committee review
• Inventoried more than \$200,000 worth of yearly expenses from the UA Club Sports Program

President | **University of Arizona Men's Ultimate Frisbee** **May 2007 – May 2009**
• Managed club budget, student accounts, schedule of events, weekly officer meetings
• Renovated club's accounting and payment system to adopt online system
• Organized UPA-sanctioned College Sectionals Tournament (2008 & 2009)

SUBJECT-MATTER EXPERIENCE

Softwares, OS's, & APIs: • Linux (Ubuntu 22.04) • Git • VSCode • Chrome-Dev-Tools • Mapbox-gl.js • Turf.js
• Mapkit.js (Apple) • Mapbox-Studio • Graphhopper (routing engine) • HTML5 • JavaScript/Node (ES6) • Leaflet.js
• Scss • Tippecanoe • ad-hoc command-line tools • some Python • some SQL • some d3.js

Sector-Specific Knowledge: • Urban Design • City Planning • Industrial Agriculture • Transportation Management
• Technical Writing • Data-Vis • Sustainable Dev. Technologies • Watershed Hydrology • Natural Resources