Dilan Ramirez

drramirezra@gmail.com • dilanramirez.com • linkedin.com/in/dilanramirez

Bachelor of Science in Computer Science • University of Texas at El Paso • Cum Laude Honors (3.6) • Grad: 05/2021

Results-driven ***Full-Stack Software Engineer*** with ***5+ years of experience*** building scalable ***web*** and ***geospatial applications*** using ***React*** TypeScript, ***Node.js*****,** and microservices. Adept in ***agile environments*** with a strong focus on CI/CD, Docker, and automated testing. ***AWS Cloud Support Associate*** certified with hands-on expertise in EC2, Linux, and IAM for deploying and troubleshooting cloud solutions. Proven track record ***transforming stakeholder requirements into high-impact technical solutions***, including projects under the ***U.S. Army Research Office***.

EXPERIENCE

Programmer Analysis I

University of Southern California – Institute for Creative Technologies *06/2021 – Present*

AIRCOEE – AI Research Center of Excellence for Education *(U.S. Army Research Office)*

- Engineered and developed the ***UI/UX*** and front-end using React TypeScript, Redux, and Node.js-delivering a scalable solution for semi-automated revisions of training materials by processing Army doctrine, policy, and manual files.
- Collaborated with ***stakeholders*** to define functional requirements and integrated robust ***microservices*** via ***RESTful APIs*** and ***GraphQL*** ensuring high performance and fluidity under heavy data loads.
- Implemented role-based authentication, containerized services with ***Docker***, and authored 200+ ***end-to-end tests*** using ***Cypress*** to fortify security and system reliability.
- Supported live sessions at Fort Gregg-Adams, VA, troubleshooting and resolving bugs identified across 15+ demos.

Personal Assistant for Lifelong Learning (PAL3)

- Revamped web and mobile application components using modern front-end technologies (***React, Node.js***) to enhance UX/UI and system responsiveness.
- Co-designed the AI-Enhanced Dashboard for Instructors & Students (AID) in ***Figma***, delivering real-time analytics on engagement, risk metrics, and resource utilization via a ***microservices architecture***.

Virtual Mentoring at Scale (MentorPal Platform)

- Led the ***front-end UI redesign*** with React TypeScript, resulting in a more intuitive interface and achieving a 96% user recommendation rate.
- Developed interactive video-based Q&A functionality supporting 15+ recorded mentors, leveraging Redux for state management and RESTful services for dynamic content delivery.

Technical Contributions Across Projects

- Maintained high code quality through rigorous peer reviews, ***Git version control***, ***Docker containerization***, and CI/CD pipeline integration for seamless deployments.
- Managed ***GitHub version control*** workflows coordinating rigorous ***peer code reviews*** and cutting new releases—ensuring robust integration and streamlined delivery.
- Collaborated in an ***agile development environment*** with daily standups and bi-monthly sprint reviews.

Research Assistant

University of Texas at El Paso – Biology Department *03/2019 – Present*

- Engineered and maintained high-performance ***geospatial databases*** by establishing and optimizing ***SQL Server Enterprise Geodatabases*** and ***SDE connections*** via ***ArcGIS Pro***, supporting robust GIS applications and ***web mapping services*** for Arctic research.
- Led the creation of comprehensive data dictionaries and ***geospatial schemas***, streamlining map service deployment and enhancing data management across departments.
- Automated data processing pipelines using ***Python*** and ***ArcPy***, reducing map service deployment times by 99% and significantly decreasing manual intervention.
- Integrated ***Sentry*** error detection into development workflows, accelerating bug fixes and improving efficiency by 90%.
- Developed and published ***7 npm packages*** that interact with ***ESRI*** technologies. These packages include tools such as search widgets, dynamic multi-autocomplete filters, and high-performance table components to manage large datasets—becoming a cornerstone for our three mapping applications.
- Developed reusable custom ***React*** components that optimized loading times and enhanced the responsiveness of the web mapping application, resulting in a smoother user experience.
- Implemented ***CI/CD pipelines*** with ***GitHub Actions*** for automated deployment of npm packages and web applications, ensuring consistent and reliable releases.
- Leveraged ***ESRI JavaScript API*** and React to create interactive web mapping tools tailored to stakeholder requirements, enhancing user engagement and data visualization.

SKILLS

Database Management	SQL Server Enterprise Geodatabases, Spatial Database Engine (SDE) geodatabases, MySQL, PostgreSQL, Oracle Database, MongoDB
Scripting & Automation	Python (ArcPy scripting), npm, Bash
Web Development	React JS, Redux, JavaScript, Node, Figma, React Native, Typescript, Gatsby, Sentry, HTML, CSS
Geospatial Analysis	ArcGIS Pro, QGIS, Google Earth Engine, Esri JavaScript API, ArcGIS Experience Builder
Software Development	UI/UX Design, Agile Methodology, Git, GitHub, CI/CD Pipelines
Cloud & DevOps	Microservices, REST API, Postman, Docker, Flask, AWS (EC2, Linux, IAM)
Behavioral Skills	Self-motivation, Time Management, Problem-solving, Adaptability, Critical Thinking, Teamwork, Leadership, Work Ethic, Interpersonal Communication, Negotiation, Attention to Detail, Organization, Initiative, Reliability, Accountability

CERTIFICATIONS Learn more

IBM Back-End Developer (ongoing – Anticipated: 04/2025)

- *Web Development, Data Modeling, Cloud Computing, Scalability Design, DevOps, Python*

AWS Cloud Support Associate Professional Certificate (ongoing – Anticipated: 05/2025)

- *Customer Feedback Analysis, Advanced Troubleshooting, Optimized Communication, Incident Tracking & Analysis.*

Going Places with Spatial Analysis (ESRI, 02/2024)

- *Data Exploration, Pattern Detection, Comparative Analysis, Predictive Modeling*

Application Development using Microservices and Serverless (IBM, 11/2023)

- *Microservices, REST API, Postman, Swagger, Docker, IBM Code Engine*

Developing AI Applications with Python and Flask (IBM, 09/2023)

- *Python Module Development, Unit Testing, Flask Deployment, AI Application Development*

CONFERENCES / PRESENTATIONS Learn more

- *Bridging Science and Community: Advancing Web Mapping Tools for Arctic Research* (AGU24, Dec 2024) Co-authored with Craig E. Tweedie, Santiago Hoyos, Allison G. Gaylord, Mauricio Barba, Ryan P. Cody, this publication advances web mapping tools for Arctic research and fosters collaboration between scientists and the community.
- Attended *Esri Developer Summit (in-person),* "Focusing on build cutting-edge apps using advanced mapping technology, ArcGIS APIs." March 12-15, 2024.
- *MentorStudio: Amplifying diverse voices via virtual mentors.* Authors: B.D. Nye, Y. Okado, A. Shiel, Ramirez, Dilan, et al. Published in: Zenodo, July 2023 | DOI: 10.5281/ZENODO.8226275. "Developed a platform enabling mentors to create video-based virtual agents, expanding access for underserved STEM students."
- *Fostering Collaboration, Access, and Public Interest through Open Science and Web Mapping.* Authors: M. Barba, D. Ramirez, R.P. Cody, et al. Presented at: AGU Fall Meeting, Dec 2023 | Poster No. C11C-1058. "Developed ARMAP, a web mapping tool to enhance Arctic research collaboration, science planning, and outreach."
- *Designing a Rapid Adaptive Content Registry (RACR) for Adaptive Learning.* Authors: B.D. Nye, A. Jain, D. Ramirez, et al. Presented at: Conference (2022). "Developed RACR, a tool to streamline content integration for adaptive learning systems, using machine learning to tag and analyze educational content."
- *Improving Interoperability within the Arctic Research Data Life Cycle.* Authors: M. Barba, R.P. Cody, D. Ramirez, et al. Presented at: AGU Fall Meeting, Dec 2022 | Poster No. IN21A-02. "Developed secure, interoperable data services to enhance Arctic research data sharing and visualization tools like ARMAP and AOV."
- *New Workflows Repurpose Geotagged Information to Improve Outreach.* Authors: M. Barba, D. Ramirez, A. Gaylord, et al. Presented at: AGU Fall Meeting, Dec 2021 | Poster No. ED15C-0540. "Enhanced ARMAP and AOV tools to improve outreach and engagement with Arctic communities through geotagged data and real-time research updates."
- *3D Viewers, Dashboard, and Data Services for Arctic Science.* Authors: M. Barba, R.P. Cody, D. Ramirez, et al. Presented at: AGU Fall Meeting, Dec 2020 | Poster No. SY047-16. "Enhanced ARMAP and AOV with real-time ship tracking, 3D viewers, and a dashboard for improved Arctic research coordination and data access."
- *The Arctic Research Mapping Application and Arctic Observing Viewer Applications Support Earth Science Planning*. Authors: M. Barba, A. Kassin, D. Ramirez, et al. Presented at: AGU Fall meeting, Dec 2019 | Poster No. IN53B-0747. "Enhanced ARMAP and AOV with 3D models, GIS tools, and optimized backend performance to support Arctic research and data sharing."