Clinton Dow

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Experienced GIS Product Engineer and Developer -- Aspiring Geospatial Solutions Architect

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Geographic Information Systems | Python Programming | WPF Programming | Test Driven Development
DevOps | Distributed Computing | Public Speaking/Technical Presentations | User Training | Process Automation

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- Thought leader on the Esri Geoprocessing and Analysis Product Engineering team, exposed to many exciting new geospatial technologies and concepts on a daily basis.
- Experienced technical presenter and public speaker in front of audiences of 200 – 3000+ people.
- Veteran GIS Developer, experienced in designing, coding and testing projects of varying size.
- Experienced with modern development practices – TDD/Doctest, Continuous Integration, Agile/Scrum teams, Distributed Computing, REST APIs, git, virtual environments
- Willing to tackle the latest challenges in the industry to provide a real advantage for my team.
- Consistently praised for communicating effectively with both technical and non-technical users.
- Known for leadership skills, problem solving abilities and a creative approach to solutions.

KEY SKILLS

Python	Data Visualization	Public speaking
numpy, scipy, dask, asyncio, requests	plotly, bokeh, d3	Open Source Solutions
C# / WPF	Jupyter/IPython	Agile Project Management
JavaScript/node.js	IBM cloudant	User Training
ArcGIS Desktop	GeoServer	Microsoft Windows
ArcGIS Server	Amazon Web Services	Linux/OSX
	EC2, Lambda	

RECENT EXPERIENCE

Esri, Inc. — Redlands, CA
Product Engineer - Geoprocessing, August 2015 to Present

- ArcGIS Pro Development
  - Developed Data Visualization/Charts UI in WPF, Chart View in JavaScript w/ Plotly.js
  - Designed and developed UI and data model for Continuum Analytics Conda integration
  - Authored supporting documentation for both projects
- Geoprocessing Tools/Enhancements
  - Researched, designed and developed multiple Geoprocessing tools in Python
  - Updated suite of unit/regression tests for GP tools written in Python
  - Improved efficiency/located and advised fixes for memory leaks in existing code
  - Performed quality assurance and user experience testing for many features of ArcGIS Pro
- Geoprocessing Team Development Environment
  - Proposed team's migration to Git from StarTeam and branching strategy for complex builds
  - Developed plan to better utilize virtual machines/Issue tracking in a branched git environment

- Advocated more canonical Agile/Scrum process to improve communication on the team
- Open Geospatial Consortium Membership
  - Esri Representative on the Discrete Global Grid System (DGGS) Standards Working Group
- Delivered Presentations at multiple conferences/user groups
  - Esri Developer Summit 2016 Plenary – Future of Python in ArcGIS
  - Esri UC 2016 – Intro to ArcPy (workshop), ArcPy Tips & Tricks, Extending ArcPy
  - GeoPython 2016 – ArcPy Overview (tutorial), ArcPy Tips & Tricks
  - Inland Empire Python User Group – Slithering into maps: Python in GIS
  - DjangoGirls Inland Empire – Job search advice for aspiring programmers

Matrix Solutions, Inc. — Calgary, AB
GIS Developer, September 2013 to February 2015

- Refactored legacy Python arcgisscripting codebase to arcpy
  - Created Unit/Regression/Acceptance Tests
  - Re-wrote code using common Python idioms and new ArcGIS Python site-package
  - Implemented Continuous Integration using JetBrains TeamCity
  - Developed tracking/reporting system to track usage metrics for internal tools
  - Used open source tools to track and visualize progress for non-technical stakeholders
- Data management - Automated Metadata
  - Dockable ArcGIS WPF add-in, used templates and proprietary databases to automate creation of FDGC compliant metadata - Saved 100+ hours per month across team of 20
  - Designed and developed UI, data model and business logic using MVVM pattern
- Data Analysis
  - Python scripts to automate workflows in the following areas
    - LiDAR and multi-spectral raster analysis
    - Multiprocessing analysis of large raster datasets
    - Statistical wildlife habitat models
    - Pipeline/Powerline least-cost-path routing
    - Map layouts
    - Project data management
  - Advised on creation of Python image analysis scripts
    - Wildlife Cameras
    - Aerial Imagery
- Web GIS – Self-Serve Tools
  - C# Silverlight Interface web GIS using ArcGIS Server REST API
  - Print GeoPDF from web map Python web service
- Training – Documentation and Instruction
  - Developed and delivered multiple training sessions in-house.
- Southern Alberta Health and Safety Committee (14 months)

Natural Market Restaurant Corporation/Planet Organic Market
I.T. Administrator – Edmonton, AB (remote) – September 2011 to April 2013
- Installed issue ticketing system that helped reduce average task time from 48 hours to under 8.
- Developed suite of system administration scripts in Python to assist with day-to-day tasks.
- Led a team of 3 in all steps of project lifecycle during an upgrade of e-mail system, terminal services servers, new knowledgebase and help-desk system (Spiceworks).

File Maintenance Clerk – Calgary, AB – November 2010 to September 2011
- Managed store quarterly inventory process
- Trained new clerks both in person and remotely

DEVELOPMENT ENVIRONMENT EXPERIENCE

- IDEs
    - Microsoft Visual Studio 2012/2015
    - JetBrains PyCharm
    - Atom/Git Bash
- Version Control
    - Git
    - Subversion

- Project Management software
    - Github Enterprise
    - Continuum Analytics Anaconda
    - Atlassian Jira Agile
    - Atlassian Confluence
    - Atlassian Crucible (Code Reviews)

CONFERENCE ATTENDANCE

- PyCon 2014
- PyCon 2015
- Esri Dev Summit 2016

- FOSS4GNA 2016
- PyCon 2016
- GeoPython 2016

- Esri User Conference 2016
- SciPy 2016

EDUCATION

Southern Alberta Institute of Technology (SAIT) — Calgary, AB
Bachelor of Applied Technology: Geographic Information Systems (Honors)

- Studies focus on Geoprocessing, Python scripting, Data Acquisition, Remote Sensing and Cartography. Team-based projects in most courses.
- Capstone project sponsored by Stantec – ArcGIS Server Web GIS
    - Web services developed in Python, interface in Silverlight C#, EQUIS SQL Database.
- President of the BGIS Student Club (Spring/Summer 2013)
- Achieved 4.0 GPA and Honors recognition

Southern Alberta Institute of Technology (SAIT) — Calgary, AB
Computer Technology Diploma

- Educated in Java and C#/Visual Basic software development, HTML/CSS/Apache Tomcat web development, networking, technical writing, UX/HCI, and Project Management concepts.
- Capstone project sponsored by Jacob's Catalytic – Predictive Maintenance System and Simulation of Industrial Environment
    - Developed in Java with Apache Tomcat web interface, XML Data Model

Volunteer Experience

- CodeDojo
- BGIS Student Club

- DjangoGirls
- PyYYC

- Inland Empire Python User Group

References

- Please see the references on my LinkedIn profile, contact information available upon request.

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