

Paul Walko

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EMPLOYMENT

DevOps Engineer <i>Ozmo, Inc</i>	Aug. 2019 – Present Blacksburg, VA
<ul style="list-style-type: none">Observability: Built monitoring stack with Grafana, OpenTelemetry, ELK, KafkaAWS ECS/Fargate: Helped migrate from ElasticbeanstalkSOC 2: Key component of SOC 2 Audit processCI Testing: Significantly improved PR turnaround time and developer happiness with automated testingOpenVPN Cloud: Implemented always on split-tunnel VPN to support remote workHelped build event-driven search service in AWS: https://ozmo.com/blog/building-a-world-wide-real-time-search-service/	
Systems Engineer <i>Solers, Inc</i>	Jan. – July 2019 Arlington, VA
<ul style="list-style-type: none">Worked with Docker Swarm and AnsibleDeployed central logging solution for clustered environment	
Research Assistant - Analyzed Netflow data <i>Hume Center at Virginia Tech</i>	Sep. 2016 – Dec. 2017 Blacksburg, VA
<ul style="list-style-type: none">Learned about issues with large data setsIntercepted data from keyboards, mice, and other BLE devicesCreated Bluetooth pen-testing device with Ubertooth One and worked with devs on IRC	

PROJECTS

GitHub: github.com/paulwalko **Gitea:** git.seaturtle.pw/pew

Self-Hosted Services

- Mergin Maps:** maps.caving.dev. Used on remote caving expeditions to manage GIS.
- Mastodon:** social.bigcavemaps.com
- Geoserver/Leaflet/MapProxy:** Used to analyze lidar and find potential caves.
- Cavepedia:** git.seaturtle.pw/pew/cavepedia. Architected pipeline to import old document, perform OCR, analyze readability, and index into a fully offline searchable application for use in the field.
- Minio, Gitea, Photoview**

Free/Open Software Contributions

- 2013 – Present:** Use and contribute to OpenStreetMap, especially not well known trails. openstreetmap.org/user/bigmapscaver.
- 2019 – Present:** Archive Team: Help archive Internet services and manage massive amounts of data.

ORGANIZATIONS

VPI Cave Club <i>vpicave.club</i> <i>Student Grotto of the National Speleological Society (NSS)</i>	2020 - Present
<ul style="list-style-type: none">Survey/Cartography: Survey and map unexplored cave passage, including data entry and processing to create a finished map.Training: Teach new members basic caving skills, including vertical competence when climbing or abseiling rope.Events: Help organize regional caving events with 200+ attendees.	

Virginia Tech Linux/Unix Users Group (VTLUUG) <i>vtluug.org, github.com/vtluug</i>	2016 - Present
<ul style="list-style-type: none">FreeIPA/LDAP: Maintain accounts for email, shell access, and webserver.Rebuilt Infrastructure: Updated services to deploy with Ansible and run all services with Docker.Organized funds: Obtained \$1300 for new servers and equipment; oversaw purchasing additional components.	

Outdoor Club at Virginia Tech (OCVT) <i>ocvt.club, github.com/ocvt</i>	2017 - Present
<ul style="list-style-type: none">Dolabra: Built backend API in Golang and SQLite + front-end in plain HTML/JavaScript. Used Open-ID Connect for auth, Stripe for payments, and Docker for testing and deployment in AWS.Appalachian Trail Maintenance: Regularly clear trail of trees, brush, and clean shelters.	

Amateur Radio Callsign: KN4VDC	2019 - Present
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TALKS

Cave Rescue Communications (Toorcamp 2024): https://archive.is/iX4s8
Austrian Expedition to the Loser Plateau (NSS Convention 2023)
Newberry's Cave Exploration (NSS Convention 2022)

EDUCATION

Virginia Tech	Blacksburg, VA
<i>Bachelor of Science in Computer Science; Minor in Cyber Security</i>	<i>Aug. 2015 – Dec. 2018</i>
AWS: API Gateway, CloudFormation, CloudFront, CloudWatch, EC2, ECS/Fargate, ElasticSearch/OpenSearch, Lambda, RDS, Route53, RDS, S3	
GIS Tools: QGIS, GDAL, Leaflet, GeoServer, MapProxy	
Languages: Bash, C, Java, JavaScript/NodeJS, Python, Ruby	
Tools: Docker, Google Workspace, Git, Grafana, Jenkins, Librato, Linux, NewRelic, Ubiquiti	