

Paul Walko

(502) 509-6242 | paul@bigcavemaps.com | <https://paul.walko.org> | git.seaturtle.pw/pew | github.com/paulwalko

EMPLOYMENT

DevOps Engineer

Aug. 2019 – Present

Ozmo, Inc

Blacksburg, VA

- Built Observability stack with Grafana, OpenTelemetry, ELK, Kafka
- **AWS ECS/Faragte**: Helped migrate from Elasticbeanstalk
- **SOC 2**: Key component of SOC 2 Audit process
- **CI Testing**: Significantly improved PR turnaround time and developer happiness with automated testing
- **OpenVPN Cloud**: Implemented always on split-tunnel VPN to support remote work
- Helped build event-driven search service in AWS:
<https://ozmo.com/insights/building-a-world-wide-real-time-search-service>

Systems Engineer

Jan. – July 2019

Solers, Inc

Arlington, VA

- Worked with Docker Swarm and Ansible
- Deployed central logging solution for clustered environment

Research Assistant - Analyzed Netflow data

Sep. 2016 – Dec. 2017

Hume Center at Virginia Tech

Blacksburg, VA

- Learned about issues with large data sets
- Intercepted data from keyboards, mice, and other BLE devices
- Created 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

- **Mastodon**: social.bigcavemaps.com
- **Geoserver/Leaflet/MapProxy**: bigcavemaps.com/lidar/blacksburg. 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** (personal archive), **Gitea** (personal git)

Free/Open Software Contributions

- **2013 – Present**: Use and contribute to OpenStreetMap, especially not well known trails.
openstreetmap.org/user/pew9000.
- **2019 – Present**: Archive Team: Help archive Internet services and manage massive amounts of data.

ORGANIZATIONS

VPI Cave Club | *vpicave.club*

2020 - Present

Student Grotto of the National Speleological Society (NSS)

- **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) | *vtluug.org, github.com/vtluug* 2016 - Present

- **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) | *ocvt.club, github.com/ocvt* 2017 - Present

- **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.

TALKS

Austrian Expedition to the Loser Plateau (NSS Convention 2023)

Newberry's Cave Exploration (NSS Convention 2022)

EDUCATION

Virginia Tech

Blacksburg, VA

Bachelor of Science in Computer Science; Minor in Cyber Security

Aug. 2015 – Dec. 2018

AWS: API Gateway, CloudFormation, CloudFront, CloudWatch, EC2, ECS/Fargate, ElasticSearch/OpenSearch, Lambda, RDS, Route53, 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