RYAN W WEST
SOFTWARE ENGINEER

ryanwest6@gmail.com
ryanwwest.com
linkedin.com/in/ryanwwest
github.com/ryanwwest

SKILLS

Go	C/C++
Java	Python
Rust	C#
Bash	Dart/Flutter
Linux	AWS & GCP
Jenkins/SaltStack	Terraform
Containers/Docker	Hashicorp
NoSQL Databases	Grafana
Computer Security	Blockchain
Distributed Systems	DevOps
Reverse Engineering	Spanish (Fluent)
Operating Systems	Machine Learning

RESEARCH & PUBLICATIONS

Simulating Municipal Cybersecurity Incidents Paper

Presents recommendations for designing realistic cybersecurity simulations for professionals to obtain impactful learning outcomes

Survey of Blockchain Consensus Algorithm Scalability Paper

Compares how well various consensus algorithms allow blockchain networks to securely scale with increased traffic volume

Hyperledger Aries Connection Protocol RFCs

These describe open-source algorithms to securely connect clients in order to create/transmit verifiable digital credentials

More at ryanwwest.com/#research

EXPERIENCE

Software/Site Reliability Engineer — **August 2019 – Present**
SAP Qualtrics

- Developed and maintained central data pipeline which processes all customer and internal data using many SQL & NoSQL databases, **Java**, RabbitMQ/**Kafka**, AWS SNS/SQS
- Oversaw design & development of a **MongoDB** XDCR (Cross Datacenter Replication) & conflict resolution distributed service (**Go**)
- Automated service creation, testing, deployment, secret injection, alerts/metrics & maintenance for 400+ servers with Jenkins, Prometheus, Grafana, HashiCorp Nomad/Puppet/Consul/Vault/Hiera

Data Engineer (Internship) — **June 2019 – August 2019**
Capital One

- Won **1st place** at Capital One's Hackathon of **540** interns with a **Chrome extension** that integrates Amazon shoppers' budget/credit card data & warnings into the site to improve financial literacy
- Used **natural language processing** in **Python** to generate crime reports of **Anti-Money Laundering**
- Built data pipeline that securely aggregates KYC customer data from AWS SQL & NoSQL databases

Security Researcher (Part-Time) — **April 2019 – August 2019**
Internet Security Research Lab (BYU)

- Led 6-man team of researchers on designing a system to detect **ransomware** and extract the encryption keys it used from RAM; co-authored research grant proposal for US Army
- Researched CONIKS distributed PKI and Signal Protocol for man-in-the-middle attack vulnerability
- Provided extensive blockchain & distributed systems support/knowledge to PhD's & professors

Blockchain Software Engineer — **March 2018 – June 2019**
The Sovrin Foundation

- Developed an open-source decentralized identity network (Hyperledger Indy) in **Rust** & **Python**
- Researched BFT consensus algorithms, DIDs, ZKPs, key revocation for GDPR; authored several RFCs
- Built cryptocurrency/USD billing system capable of processing 10k+ txns/sec with **Docker**
- Did DevOps maintenance with **Jenkins** CI/CD, Terraform, SaltStack, AWS Lambda, Bash+Cron
- **Interviewed**, **hired**, and **mentored** software development interns across 4 continents

Lead Software Developer & Researcher — **April 2017 – October 2018**
Configurable Computing Lab (BYU)

- Wrote a compression algorithm to reduce data files' size by 99%
- Led software development & research of an embedded system running **Arch Linux**, designed to measure FPGA reliability using simulated radiation injection **(C/C++/Python/Bash)**

EDUCATION

Brigham Young University

MS, Computer Science (Cybersecurity & Distributed Systems) — **April 2020 – April 2021**
BS, Computer Engineering, Business Management Minor — **June 2016 – April 2020**

- MS GPA: 4.0/4; BS GPA: 3.9/4
- Recipient of Weidman Leadership Scholarship, National Instruments Scholarship, BYU Full-Tuition Scholarship, Regents' Exemplary Scholarship, Shaeffer Academic Scholarship
- Treasurer of IEEE's CS/EE Honors Society: Eta Kappa Nu

Research Areas: Blockchain and consensus algorithms, ransomware defense techniques, FPGA radiation reliability, cybersecurity risk/attack simulations, Signal secure messaging protocol, Google Key Transparency