Cole Tierney - Resume

# Cole Tierney

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Software developer since 1990.  
It's not done until it's documented.  
"I've seen things you people wouldn't believe... Attack ships on fire off the shoulder of Orion... I watched C-beams glitter in the dark near the Tannhäuser Gate. All those moments will be lost in time, like tears in rain..."

## Technical Skills

* Languages: Liquid, Python, Perl, C++, Objective-C, XSLT
* Test Frameworks: Pytest, Test::More, Googletest
* Continuous Integration: Bamboo, TeamCity, GitLab, Bitbucket
* DevOps/AWS: Boto3, Lambda, EC2, Elastic IP, S3, Terraform
* Virtualization: Docker, Vagrant, Virtualbox, XenServer

## Work Experience

### Jekyll Developer

Personal - Adapt Github's Jekyll blogging platform to deploy on private web servers  
Underhill, VT July 2022 – March 2023

#### Relevant Skills

* jekyll
* liquid
* git
* bash
* markdown
* yaml

#### Responsibilities

* Detect and mark rendered drafts with liquid templating
* Using liquid, create a page for tags listing the posts where it is used
* Maintain a page that groups posts by category
* Add a page collection customized for displaying code
* Deploy with git
  + Created a git pre-push hook to validate files being pushed
    - Check if a rendered file is a draft and optionally abort push if so
    - Ensure that all tag pages exist and optionally create them
  + Wrote a git pre-receive hook to deploy Jekyll's static site files
    - Uses git read/write tree to merge updates with the remote repo's index file
    - Updates files in the remote work tree

### Engineer 2

Nordstrom - Credit data processing division  
Denver, CO September 2021 – February 2022

#### Relevant Skills

* python
* aws
* terraform
* gitlab
* ci-cd
* ebcdic

#### Responsibilities

* Terraform
  + Worked on a system that sets up and tears down a Kubernetes cluster to isolate credit data operations to comply with SOC2 audits.
  + Contributed to a system to allow developers to work in isolated workspaces
* AWS
  + Monkeypatching lambda functions to test with Pytest
* CI/CD with Gitlab
  + Added pytest step to Gitlab pipelines
* Decoded EBCDIC data received from main-frame computers using python

### Software Engineer

Paragon ID  
Essex Junction, VT November 2019 – March 2021

#### Relevant Skills

* python
* perl
* mysql
* ssh
* rfid

#### Responsibilities

* Developed MySQL/Python software to support Matica RFID production machines
* Ported perl post processing software to Python with tests written with pytest
* Coordinate with France branch to integrate ASK RFID reader
* Tuned client production report generation Perl script to reduce runtime from 2 hours to 5 seconds
* Wrote a perl test suite with Test::More module
* Wrote modules in Perl and Python to validate incoming and outgoing data fields
* Development cycle improvements
  + Introduced test driven development for Perl and Python projects
  + Source control with Git and Bitbucket

### Sr. Level Software Engineer, Design to Tapeout Automation

Global Foundries  
Essex Junction, VT March 2017 – June 2019

#### Relevant Skills

* python
* perl
* c++
* bash
* ksh
* aix
* lsf
* mysql
* markdown

#### Responsibilities

* Instrumental in porting legacy semiconductor design validation ksh scripts from IBM AIX systems to Global Foundries Linux servers
  + Refactoring all ksh validation scripts to use LSF distributed high performance computing in place of LoadLeveler
  + Decoupled ksh scripts from the AIX Andrews File System to be compatible with Global Foundries linux systems
  + Saves the company millions of dollars annually
* Utilized Mentor Graphics Calibre application to access data in semiconductor design files
* Published documentation generated by Doxygen using Bitbucket pipelines
* Introduced markdown as the preferred documentation format which has been adopted by my teams and others at Global Foundries
* Convinced my teams to migrate from RCS and CVS to Git and coached them though the transition
* Designed a system to audit changes in configuration and health of compute clusters in USA, Germany and Singapore
* Porting cluster job management software from Perl to Python
  + Designed and implemented a MySQL interface for communicating with the python LSF queue manager application
  + Developed a declarative python configuration system
* Wrote a Python runtime dependency test system so that long running processes can fail fast
* Wrote a C++ authentication helper app supported by Googletest framework
* Collaboration with admins in Dresden, Singapore and the US
  + Wrote a script to monitor health and configuration change in compute clusters in Germany, Singapore and US
  + When problems were detected, I worked with admins to solve them

### Network Engineer

ClearBearing, Inc.  
Essex Junction, VT May 2016 – March 2017

#### Relevant Skills

* monitoring
* linux
* sys-admin

#### Responsibilities

* Monitored remote sensors across New England using a distributed network of nagios servers
* Linux system management
* Public and Private Cloud Server administration
* Web, database, and load balancing cluster maintenance

### Senior Cloud Administrator

OpenTempo, Inc.  
Williston, VT April 2015 – February 2016

#### Relevant Skills

* aws
* rds
* ec2
* elastic-ip
* ssh

#### Responsibilities

* Supported java infrastructure for company's flagship product
* Developed a cloud infrastructure audit system; instrumental in achieving SOC 1 compliance
  + Monitored production and pre-production systems for configuration and security related changes
  + Facilitated a weekly system health and security audit
* Responsible for a daily monitoring, report analysis, log analysis and issue escalation
  + Scripted tools to automate server data collection
  + Created a tool to generate a network topology map, by automatically discovering servers in the AWS cloud
* Maintained and Operated a Chef/Ruby/Opsworks based cloud infrastructure
  + 20-25 Amazon Linux EC2 Instances, backed by 8-10 RDS Postgres database instances deployed with Elastic IP
  + Improved and simplified system admin team documentation, security and automation
    - ssh connection credentials
    - server addresses
    - permission related tool sharing

### Software Developer

Laureate Learning Systems, Inc.  
Winooski, VT May 1990 – September 2014

#### Relevant Skills

* xslt
* xml
* bash
* c
* git
* assembly
* apple-soft-basic
* mm-director

#### Responsibilities

* Wrote speech-language development software in many programing languages for multiple platforms
* Coordinated with developers and artists to organize the delivery of multimedia assets
* Designed and implemented an API for communication between Flash assets and Adobe Director for Laureate software
* Apple Developer Program Team Agent; managing certificates, app ids, devices, provisioning profiles
* Wrote DLLs in C to provision custom windows language development workstations
* Automation with XML XSLT transformations
  + Product installers and CD-ROM masters
  + Email newsletter
  + Website update
  + Site map
  + RSS feed

### Ground Operations Agent

PEOPLExpress Airlines  
Dulles, VA & Newark, NJ 1985 – 1986

#### Relevant Skills

* airline-ops

#### Responsibilities

* Flight support
  + Ordered Jet A fuel for outbound flights
  + Provided pilots with flight plans
* Passenger support
  + Managed oversold flights
  + Checked in passengers
  + Boarded flights
  + Helped passengers with tight connecting flights

## Military Experience

### 3rd Infantry Drummer

U.S. Army Old Guard Fife & Drum Corps, Presidential Escort  
Ft. Myer, VA 1982 – 1985

#### Relevant Skills

* rudimental-drumming
* ceremonies
* parades

#### Responsibilities

* Musical duties
  + Performed for arrival ceremonies at the White House
  + Traveled around the country performing for various parades and other events
  + Received an Army Commendation Medal for collaborating with a colleague writing drum solos
* Other duties
  + Participated in the ceremony for the internment of the Vietnam War Unknown Soldier in Arlington National Cemetery
  + Predawn "flags-in" tradition each Memorial Day in Arlington National Cemetery with the 3rd Infantry battalion
* Security clearance: secret

## Education

University of Vermont  
Burlington, VT 1987 – 1990

* Major: Computer Science
* Minor: German

George Mason University  
Fairfax, VA 1985 – 1986

* Major: Computer Science