Brent A. Musat

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Work Experience

Docusign (Liveoak Technologies) - Austin, Texas (May 2020-January 2023)

- Senior Site Reliability Engineer - (May 2020-May 2022)
  - Helped transition our container orchestration from HashiCorp Nomad to AWS EKS (Kubernetes).
  - Removed our reliance on EC2s and moved to serverless Fargate and managed services wherever possible.
  - Built custom Lambda microservices and deployed them through AWS SAM (Serverless Application Model).
  - Improved and maintained our security footprint by reducing AWS resources for PCI Compliance and SOC 2 Type 2.
  - Made devops improvements to our CI/CD using Github, CircleCI, DataDog and logz.io for monitoring and logging.
  - Encouraged use of Terraform for all resource creation to improve our IaC posture for better reuse and documentation.
- Site Reliability Engineering Manager - (June 2022 - January 2023)
  - Managed a team of three SREs while continuing my duties as an individual contributor.
  - Led daily stand-up meetings to monitor team member tasks, helped with difficulties, and planned for future work.
  - Performed team member reviews and provided feedback and guidance when necessary.

Mio - Austin, Texas (Feb 2019-March 2020) - DevOps Engineer

- Monitored and deployed all cloud services in AWS to host our full-stack application and websites.
- Improved network security by using VPCs with strict NACLs, security groups, and forcing HTTPS for all traffic.
- Automated the deployment of infrastructure services (IaaS) using Terraform.
- Leveraged Ansible for any necessary post install configuration.
- Streamlined the creation of all EC2 deployed AMI Linux images by using Packer with bash and Ansible.
- Kept all systems up to date by automatically applying patches and updates for CVEs to our linux servers.
- Made improvements to infrastructure, logging, and alerts to maintain our SOC 2 Type 2 compliance.
- Debugged problems in nginx, haproxy, and ReactPHP to tune our full-stack application and identify causes.
- Maintained and monitored our Docker Swarm, scaling and updating containers as necessary to support our application.

Ticom Geomatics - Austin, Texas (March 2012-Jan 2019) - Principle Test Engineer

- Implemented test plans, wrote requirements, and traveled to customer sites for final test acceptance.
- Maintained, automated, and reported nightly test results of daily software builds.
- Worked in a daily Agile process with a team of engineers to create a DevOps work environment for future customers.
- Automated configuration of virtual and deployed systems using Ansible and Python.
- Deployed a cloud environment (AWS) using CloudFormation (IaaS) using least privileged security measures, Lambda microservices, and auditing of logs.
- Created tools to help characterize and capture various network traffic and replay them using Netropy hardware to test the performance of our software in unreliable network scenarios.

Tanisys Technology - Austin, Texas (Sept 2011-Mar 2012) - Field Application Engineer

- Helped debug and test new features of our API to interface with our line of SSD testers.
- Responsible for supporting customers and helping them develop test flows applications for our various product lines
- Worked with numerous device types and protocols including SATA, SAS, and PCIe.
- Interfaced with the customer to resolve issues and implement new hardware and software features.

Texas A&M University - College Station, Texas (Sept 2008-Aug 2011)

- Graduate Assistant, Department of Visualization - IT staff
  - Helped maintain the entire VizLab network including: upgrading and installing new software, computers, servers, networks, render farm, and general lab maintenance.
  - Provided assistance to students, faculty, and staff.
- Graduate Assistant, Immersive Visualization Center (IVC)
  - Maintained the hardware and software of a 25'x8' active stereo 3D rear-projected screen.
  - Gave demonstrations of the IVC to students, faculty, and the general public.
  - Helped graduate students and researchers transform data and utilize the full capabilities of the IVC.

Tanisys Technology - Austin, Texas (Feb 2006-Aug 2008) - Sustaining Engineer

- Responsible for supporting our M500 product line used for flash memory testing.
- Utilized USB, CompactFlash, Secure Digital, and Memory Stick memory protocols.
- Interfaced with the customer on a weekly basis to resolve issues and implement new hardware and software features.
- Board level debug with oscilloscopes and logic analyzers to trace signal issues.
- FPGA development using Xilinx with both schematic capture and Verilog designs.

Applied Materials (contractor) - Austin, Texas (Jun 2004-Jun 2005) - FEP (Front End Products) Final Tester

- Responsible for testing semiconductor manufacturing systems prior to customer shipment.
- Resolved problems during final system inspection and demonstrated operation to customers.
- Tested a variety of semiconductor manufacturing equipment (Centura 200mm and 300mm platforms, Vantage 300mm) including various chamber types with emphasis on thermal processes (RTP, Epi, LPCVD, DPN).
- Developed and implemented more efficient and effective test procedures.

Agere Systems (Lucent Technologies) - Austin, TX (Nov 2000-Jan 2003) - Systems Application Engineer

- Worked in a team to support our leading edge network processor (PayloadPlus).
- Applied extensive networking knowledge: protocols, technology, test equipment, and applications.
- Responsible for problem determination and resolution in our chipset and API.
- Communicated problems to our Hardware and Software Engineers to help resolve customer issues.
- Programmed our chipset to perform varying levels of Quality/Class of Service, ATM SARing, IP over ATM, or other specific line-rate applications that required traffic management and shaping.
- Worked on our Integrated Development System (IDS) running Linux and VxWorks operating systems and interfaced chipsets with other networking chips including framers and switch fabrics.

Silicon Metrics Corporation - Austin, Texas (Mar 1999-Nov 2000) - Senior Software Engineer

- Developed and maintained our main product (CellRater) used to characterize standard cell libraries.
- Designed and engineered changes to the HDL cell models and tested SDF compatibility with multiple.
- Integrated Platform Computing's Load Sharing Facility (LSF) to allow load-balancing over networks.
- Designed and implemented significant improvements in our power characterization methodology using various SPICE engines to increase the accuracy of calculated cell power usage.
- Used a broad range of EDA tools including DesignCompiler, Primetime, Verilog-XL, VCS, ModelSim to verify correctness of CellRater's output model formats.

United Space Alliance (Lockheed-Martin) - Houston, Texas (Jun 1996-Mar 1999) - PASS FCOS Developer (Primary Avionics Shuttle Software)

- Developed, implemented, tested, and maintained the Flight Computer Operating System (FCOS) that runs onboard the Space Shuttle's five AP-101S computers.
- Supported redundant and fault-tolerant computer systems required for life-critical systems.
- Practiced rigid software engineering for our SEI (Software Engineering Institute) CMMI Level 5 rating.
- Analyzed errors in the software, assessed risk, and formulated process improvements.
- Performed extensive software testing on various simulators and on actual NASA hardware.
- Played a critical role in implementing GPS navigation features which flew aboard Space Shuttle missions.

Education

- Texas A&M University - Master of Science in Visualization (thesis pending, 56 hours completed)
- Texas A&M University - Bachelor of Science in Computer Engineering (completed May 1996)

Technical Experience

- Virtualization/Cloud: Amazon Web Services, VmWare, Virtualbox, Vagrant, Packer, Ansible, Docker, Kubernetes
- Languages: Python, C/C++, Java, Perl, PHP, MySQL, Verilog, VHDL, Pascal, Fortran, Lisp, bash
- Networking: TCP/IP, ATM, SONET, Ethernet, PPP, etc.
- Assembly Languages: AP-101S, IBM 370, Motorola 68040, x86, Cray Y-MP
- Operating Systems: Unix (Solaris, Linux, BSD), VxWorks, Windows, MacOS
- Software/Packages: Adobe Products, Autodesk 3ds Max, Maya, Houdini, SketchUp

Other

- AWS Certified Solutions Architect - Associate (achieved Sep 2017)
- AWS Certified SysOps Administrator - Associate (achieved July 2018)
- Engineer-In-Training (EIT #36400)
- Amateur Radio Operator (Technician license: KE5MRF)
- Student Volunteer at ACM's SIGGRAPH 2009 (Association of Computing Machinery computer graphics conference)
- Member of Tau Sigma Delta (Honor Society in Architecture and Allied Arts)