## Software Skills

| Area | Strong | Moderate | Basic |
|------|--------|----------|-------|
| OS | FreeBSD | CentOS / Red Hat Linux | Windows server editions |
| Containers | Jails | Kubernetes, Helm | Docker |
| Virtualization | ESXi | bhyve | Hyper-V |
| Storage | ZFS, MPIO | NFS | iSCSI, SMB |
| Networking | TCP/IP | DNS, DHCP, firewalls, NAT, Web servers | Traffic shaping, DNSSEC, VLAN, LACP |
| Scripting | Tcl, Expect | Python | Bourne shell |

## Hardware Skills

I have configuration, maintenance and troubleshooting experience with products from these vendors.

| Area | Strong | Moderate | Basic |
|------|--------|----------|-------|
| Servers | Hitachi | Supermicro, Dell, HP | IBM |
| Storage | Hitachi | Brocade, QLogic, Emulex, LSI | HP, EMC, IBM, NetApp |

## Other Qualities

- I enjoy writing detailed code comments and documentation, making it easy for others to understand my work.
- I enjoy and have extensive experience with interviewing candidates for engineering jobs.
- I enjoy helping others to learn new skills.

## Work History

2012 - 2020:  **Hitachi Vantara** Employee – SIE Group – Master Software QA Engineer

1. Developed Helm charts that allowed a complex set of applications to run in Kubernetes.
2. Developed automatic OS installer feature prototypes for Hitachi servers, adding UEFI support and much more.
3. Developed stress test automation for a NAS management API that found elusive firmware and API bugs.
4. Developed NetBackup stress test software that found an elusive, high-value data corruption bug.
5. Found remote root exploit security bugs in Hitachi management software.
6. Trained a new system administrator in VMware ESXi, FreeBSD and FC SANs.
7. Created and maintained NFS servers for the group using FreeBSD with ZFS and MPIO on the FC SAN.
8. Created the group's DNS system using BIND on FreeBSD and maintained it for eight years.
9. Created high-performance test beds for Kubernetes using FreeBSD and bhyve with in-memory ZFS pools.
10. Used ipfw and dummynet to test a Hitachi NAS management API's tolerance of cluster node failovers.
11. Filled the lead QA roles for VMware vCenter and Microsoft SCOM plug-in projects based in Japan.
12. Filled the lead QA, release, automation, and lab administration roles for a NetBackup OpenStorage project.
13. Aggressively found bugs in storage and server plug-ins—over nine hundred bugs filed.

2010 - 2012:  **netPolarity, Inc.** Contractor at Hitachi Data Systems – SIE Group – System QA Engineer

1. Developed a continuous integration and automated smoke test system using Tcl and Expect.
2. Developed a command line interface to the (H)ost (D)ata (C)ollector product using Tcl.
3. Performed manual HDC testing with Windows, Solaris, RHEL, SLES, HP-UX, and AIX.

2006 - 2009:  **VMware, Inc.** Employee – CPD ESXi Group – QA Engineer 2

1. Qualified ESX 3.5 U5 on the Intel Lynnfield prototype server platform.
2. Qualified ESX with the HDS TagmaStore NSC55 storage virtualization device.
3. Ran server stress tests using HP Hazard, Microsoft HCT, Oracle SwingBench, IOMeter and iozone.
4. Primary SAN administrator for CPD, including cabling, switch, SVD, and array administration.
5. Primary liaison between CPD (in Palo Alto, Bangalore and Beijing) and VMware lab employees.
6. Developed a script to display enhanced FC connection information.

1999 - 2005:  **Santa Cruz Operation** Employee and Contractor – System Test Group – System Test Engineer

1. Fanatically tested OpenServer and found hundreds of bugs.
2. Developed test automation that found elusive OpenServer kernel panics.
3. Found an Internet Manager security exploit and provided a fix.
4. Tested the UnixWare Linux Kernel Compatibility product.

1999:  **Cabrillo College Library** – Dan Kern's Assistant Administrator for Linux and NT servers and 200+ desktops.