

# 孙 放

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## 总结

- 9 年+ 测试/测试开发经验, 掌握软件测试/开发生命周期, 良好的编码规范
- 常用语言: Python, Shell
- 熟悉 Jenkins/Pipeline 解决方案在自动化测试中的应用
- 平台/工具: Linux, Git, Jira, Conference, Perforce, Bugzilla, VSphere, Jenkins, ZStack, Docker
- 熟悉 BIOS firmware 测试自动化流程和解决方案
- 熟悉 SSD firmware 测试自动化流程和解决方案
- 熟悉 VMware VSphere, 分布式存储 VSan
- 熟悉 ZStack 私有云/混合云集群, 熟悉云计算相关存储, 网络, 虚拟化知识
- 熟悉 IBM XIV 存储集群以及相关的存储知识

## 工作经验

### Intel 2021/5 – 2021/9 BIOS Firmware 测试自动化工程师

- **BIOS Firmware 测试自动化架构设计与开发**

设计开发 BIOS firmware 测试自动化系统, 为不同平台 (PSS, Client, Server) 的自动化提供统一的接口和解决方案, 极大的提升了系统的可维护性, 并降低了成本.

### Micron 2019/8 – 2021/1 Firmware 测试自动化工程师

- **Firmware 测试开发和维护**

1. 开发和维护基于 Jenkins 的回归测试平台, 处理回归测试整个生命周期中遇到的各种问题, 并为客户提供解决方案。
2. Jenkins Pipeline。引入 Script Pipeline 来处理回归测试任务流。极大的提升了可维护性。
3. Redis 中间件。用于基于模拟器的回归测试, 引入 Redis 作为两套测试框架的中间件, 解决了测试框架不统一的问题。

- **2<sup>nd</sup> Firmware 自动化系统开发**

负责 Node 管理模块, 提供前端用户界面, 可统一管理和维护实验室的 Node/DUT。

- **新员工指导和培训**

指导新员工尽快熟悉产品和整体测试流程。

### VMware 2018/6 – 2019/8 测试自动化工程师

- **Python 测试自动化工程师:**

1. 自动化 DevOps 工具框架开发, 该工具实现 X86 集群 PXE boot 到用例执行整个生命周期。个人负责任务调度模块, 基于依赖图实现并发的任务调度。
2. 基于 Json 的系统测试结果比较。对于相同测试用例的两次测试结果, 抽取 log 中的核心结果, 输出可视化的 diff2html, 改进测试人员分析效率。

- **VSAN 系统测试/自动化测试:** 执行 VSAN 系统测试, 维护并修改相应的 Automation 代码。

#### **ZStack 云计算** 2017/04 – 2018/5 自动化测试工程师, 研发工程师

- **Python测试工程师:** ZStack-woodpecker(开源项目)自动化测试和测试框架核心开发
  1. 负责 test case 开发: 多个主存储, VPC, hot plugin cpu。
  2. 负责框架开发: 引入 test flavor 作为 test case 控制层面的另一个维度, 极大增大可维护性。个人代码:  
[https://github.com/zstackio/zstack-woodpecker/blob/master/integrationtest/vm/vpc/test\\_vpc\\_two\\_vm\\_connection.py](https://github.com/zstackio/zstack-woodpecker/blob/master/integrationtest/vm/vpc/test_vpc_two_vm_connection.py)
  3. Github 贡献超过 400 commit: <https://github.com/ads6ads6?tab=overview&from=2017-5-01&to=2017-12-31>
- **Java 研发工程师(2018/1=2018/5):** ZStack 后端业务逻辑层功能研发。负责模块: VMware 接管。负责 feature: 接管 VMware 克隆, 迁移。
- **自动化测试 Nightly 结果分析:** 分析 nightly 结果, 及时反馈 bug 和维护自动化 case

#### **爱立信** 2015/02 – 2017/4 测试开发工程师

- **Python 自动化测试框架开发:** Python 实现的爱立信 EPG 集群系统安装部署配置自动化工具软件, 并对自动化测试提供 API 和 Functional 级别的支持。工作内容包括 New feature design and implementation, Code maintenance and Bug handling, Code review, UT design。
- **脚本开发:** 为系统测试人员提供脚本支持。

#### **IBM CSTL** 2012/07 – 2015/02 软件测试工程师

- **系统测试:** IBM 分布式存储集群 XIV 的功能测试验证。工作包括但不限于 Test plan design, Test case execution, Bug report and verification.
- **自动化测试:** IBM XIV 分布式存储自动化系统测试。与以色列团队合作进行开发测试。内部测试框架 Tlib+Python, 主要工作为 Test case design and implemation.

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## Summary

- 9 Years+ working experience in software engineering (Test /Test Automation/)
- Understand software development/testing lifecycle, good coding style
- Familiar with Python, Shell
- Familiar with Jenkins and pipeline solution on Test Automation
- Familiar with Linux, Git, Jira, Conference, Perforce, Bugzilla, VSphere, ZStack, Docker
- Familiar with BIOS Firmware automation solution
- Familiar with SSD Firmware test work flow and solution
- Familiar with VMware VSphere and VSan
- Familiar with ZSTACK private/hybrid cloud, and corresponding storage, network and virtualization
- Familiar with IBM XIV high-end storage system and related storage knowledge

## Work experience

**INTEL** 2021/05 – Now Firmware test automaton engineer

- **BIOS firmware automation system design and implementation**
  1. Architecture design and implementation on BIOS firmware automation system, provide unified Automation library/interface on multiple platform(PSS, Client, Server), the new solution significant lower the maintenance effort, and save overall cost.

**MICRON** 2019/08 – 2021/01 Firmware test automaton engineer

- **Firmware Regression test development and maintenance:**
  1. Develop and maintain Jenkins based Regression Test Framework, triage issues and provide solutions on the overall Regression life cycle.
  2. Pipeline solution on Regression test. Introduce script pipeline to streamline the regression test workflow, As a replacement of free-style job, pipeline solution is much easier to maintain, save manual effort and overall cost.
  3. Middleware solution. To enable GenSim Regress Test, Introduce Redis as middleware between Regression Test Framework and simulation test Framework.
- **2<sup>nd</sup> Firmware Automation system Development :**

As owner of Node management, provide front end interface to better maintain overall Node/DUT on the lab.
- **Mentorship on Junior engineer:**

Coach junior engineer to speed up the ramp up on the regression relate knowledge.

**VMWARE** 2018/06 – 2019/08 software test automation engineer

- **Python test automation engineer:**
  1. internal DevOps tool developer, the whole life-cycle beginning from the PXE boot to test execution. Focus on the test scheduler module. Achieve concurrency test scheduling via dependency graph

2. json based report comparasion. For one test case, compare two automation runs to show a visual report regarding to the result diff, this would help tester to triage.

- **Vsan System test/Automation:** execute VSan regression test, and do Automation bug fix.

**ZSTACK**      2017/04 – 2018/05      software test automation / software developer

- **Python test automation engineer:** Core developer in zstack-woodpecker project, focus on :
  1. test case design and implementation. Owned feature: multiPrimaryStorage, VPC, hot plugin CPU/Mem
  2. test Framework level design. Introduce test flavor as a outer control for case design, improve the code maintenance and readability. Personal code:  
[https://github.com/zstackio/zstack-woodpecker/blob/master/integrationtest/vm/vpc/test\\_vpc\\_two\\_vm\\_connection.py](https://github.com/zstackio/zstack-woodpecker/blob/master/integrationtest/vm/vpc/test_vpc_two_vm_connection.py)
  3. contribute more than 400 commits on github zstack/zstack-woodpecker project.  
<https://github.com/ads6ads6?tab=overview&from=2017-5-01&to=2017-12-31>
- **Zstack software developer:** Back end software developer. Owned module: vmware. Owned feature: vmware clone and migration
- **Nightly maintenance:** report bug and refactor test case through analyzing night result

**ERICSSON**    2015/02 – 2017/04    Software test tools developer

- **EPG Test Automation infrastructure development & maintenance:** AUTOTT -- Ericson EPG performance test Automation tools, AUTOTT automate all the tasks including install, reload, configure, start with regard to tools and nodes, and provide API to support testing.  
Our task Included but not limited: New feature design and implementation, Code maintenance and Bug handling, Code review, UT design。
- **Tools/Scripts Developer:** Handle requirements from the system testers for tools/scripts development.

**IBM CSTL 2012/07 – 2015/2 Software test Automation engineer**

- **Test Automation:** Automation tester of IBM high-end storage system XIV. Global Team work with Both QA and DEV in Israel. Include but not limited -- Test plan design, Code design and execution, Bug report and verification
- **System test:** Functional verification tester of IBM high-end storage system XIV. Global Team work with Both QA and DEV in Israel. Include but not limited -- Test plan design, Test case execution, Bug report and verification