

NICHOLAS SUN

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Work

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| Software Engineer
2017 - present | <ul style="list-style-type: none">• Software Engineer at <i>Nefeli Networks</i>• Designed, implemented and tested gExp, the meta controller that manages multiple (Exp) clusters• Built and formalized APIs both internal (EtcD key schema) and external (REST, Swagger)• Converted the controller into micro-controllers, and during this also reworked the controller design pattern to focus on correctness and maintainability• Added most of the controllers and API servers/clients to integration tests and stabilized the full system tests• Built the code generation – Go/C++ EtcD key schema stubs, templating for Go, Protobuf based (un)marshal guards and helpers for Go. |
| Software Engineer
2016 - 2017 | <ul style="list-style-type: none">• Software Engineer at <i>Mesosphere Inc.</i>• Designed and jointly implemented Edge LB, an orchestrated load balancing solution that integrates with DC/OS features such as Mesos, Marathon, Secrets, ACLs, and Service accounts• Maintain DC/OS service discovery stack (Mesos-dns, Spartan, Navstar)• Maintain DC/OS cluster ingress (Marathon-lb, DC/OS Tunnel, Edge LB) |
| Engineering Intern
Summer 2016 | <ul style="list-style-type: none">• Software Engineering Intern at <i>Mesosphere Inc.</i>• DC/OS Tunnel, a CLI module for proxy (HTTP/SOCKS) and VPN access to DC/OS clusters• HTTP proxy server component• DC/OS networking mode benchmarks (throughput/latency, host/bridge/overlay)• Prototype of distributed ACL caching leveraging Lashup |
| DI
2015 - 2016 | <ul style="list-style-type: none">• Headed by Ethan Jackson and Scott Shenker, at the UC Berkeley NetSys Lab• A policy language for the cloud featuring intuitive addressing and virtual networking• Working with containers, cloud APIs, and expressing resource constraints in the language |
| Unix Systems Administrator
2014 - 2016 | <ul style="list-style-type: none">• Unix Systems Administrator at UC Berkeley Residential Computing• The team manages ~50 servers and provides internet and services to ~5000 student residents• Git+Puppet+Hiera and logging infrastructure development• FreeBSD ResComp ports tree revamp and overall infrastructure improvements |
| Engineering Intern
Summer 2015 | <ul style="list-style-type: none">• Web Operations Intern at <i>Etsy Inc.</i>• Disk space prediction and associated Nagios check• Qualitative approaches to server health |

Tools

Languages	Go, Python, C++, Shell, Erlang, Java, Ruby	Javascript, OpenCL, Scheme, MIPS
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School

UC Berkeley	Electrical Engineering and Computer Science (EECS) Major Class of 2016
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Relevant Coursework

CS	61A (Structure and Interpretation)	9C (C Language)
	61B (Data Structures)	9F (C++ Language)
	61C (Machine Structures and Parallelism)	162 (Operating Systems and System Programming)
	70 (Discrete Mathematics and Probability Theory) 170 (Efficient Algorithms and Intractable Problems)	188 (Artificial Intelligence)
	161 (Computer Security)	189 (Machine Learning)
	186 (Database Systems)	194-15 (Parallel Performance Software Engineering)
	168 (Internet: Architecture and Protocols)	164 (Programming Languages and Compilers)
		268 (Advanced Computer Networks)
EE	40 (Intro to Microelectronic Circuits)	20 (Signals and Systems)