

# ALEXANDER PAVEL

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## EDUCATION

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**Rutgers, The State University of New Jersey** *September 2015 - May 2018*  
Bachelor of Science, Computer Science; Business Administration Minor *Cumulative GPA: 3.819*  
Honors Programs: SAS Honors Program, Computer Science Honors Program

## TECHNICAL STRENGTHS

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**Programming Languages** *Proficient:* Rust, Java, C; *Familiar:* Python, Bash, Go, Dart  
**Software** CoreOS, Docker, Kubernetes, Tectonic, Ignition, Vagrant, Virtualbox, CentOS, Git, Salt, Cobbler, Koji, Fedora Mock, rpmbuild  
**Web Backend Technologies** Nginx, MongoDB, MySQL, Flask, Apache

## EXPERIENCE

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**CoreOS** *May 2017 - August 2017*  
*Operating Systems Intern*

- Designed system for using CoreOS Ignition to provision Virtualbox CoreOS instances
- Wrote Vagrant plugin to generate GPT partitioned vmdk file containing Ignition configuration and mount to virtual machine automatically
- Created CoreOS Tectonic Sandbox, a vagrant setup that allows interested users try out CoreOS Tectonic on their local machine instead of a cloud instance
- Created initial version of Rust-based Github bot, CoreOS Tailor, that makes sure commits adhere to certain standards, such as message line length limits, message formatting standards, and license headers of source files
- Created CoreOS PR-NagBot, a Rust-based bot that reads a list of Github repos from a file and then posts a list of open Pull Requests to a Slack channel via Slack Webhooks

**Open System Solutions** *January 2016 - April 2017, September 2017 - Present*  
*Student Systems Programmer*

- Rewrite and optimize Rutgers CentOS RPM management system, reducing code complexity and improving package push/pull speed by well over 200%
- Migrate various services, such as Saltstack, to Docker containers
- Design and deploy a dockerized, easily expandable instance of Wordpress MultiSite
- Responsible for building and maintaining RPM packages used throughout a community of over 100,000 faculty, staff, and students

## PERSONAL PROJECTS

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**Simple Assignment Planner:** A simple Android app for organizing courses and assignments. In Google Play store. Source code: <https://goo.gl/XkPHXd>

**Dartrix:** A web app for learning how to manipulate matrices. Written with Polymer.dart. Available at <https://dartrix.alexpavel.com>

**Mass Email System:** A CLI Java application that can send personalized emails to multiple recipients using 2 configuration files. Works on Linux and Windows. Available at <https://github.com/AlexNPavel/MassEmailSystem>

**Custom Chromebook Changes:** Used legacy boot to run Arch Linux on a C740 Chromebook and optimized the kernel to be more responsive and have longer battery life

**Personal Server:** Used as local cloud backup, NFS server, VPN server, hosting site for Dartrix and a robotics tutorial, and a dynamic reverse proxy cache for Arch Linux packages. Available at: <https://www.alexpavel.com>