Bennett Rand

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EDUCATION

OREGON STATE UNIVERSITY
B.S. Computer Science
June 2014 | Corvallis, OR
Applied Computer Science Program
School of Electrical Engineering and Computer Science

LINKS

Github:// **BennettRand**
LinkedIn:// **Bennett Rand**

COURSEWORK

- Computer Arch and Assembly Lang
- Operating Systems I & II
- Software Engineering I & II
- ST/ HCI Research Methods
- Digital Logic Design
- Intro to Usability Engineering
- Computer Org & Assembly Lang
- Intro Artificial Intelligence
- ST/ Intro to Info Visualization
- Computer Architecture
- Applied Robotics
- Machine Learning & Data Mining
- Intro to Parallel Computing
- Network Security
- Mobile/Cloud Development

SKILLS

LANGUAGES

Strong:
Python • Go • C • C++
JavaScript • SQL • HTML & CSS
Familiar:
Assembly (AVR, x86, ARM v6)
C# • Java • PHP

OTHER

AWS • Ansible • Cassandra • Consul
Django • ELK • Flask • Git • Jenkins CI
Linux • Mesh Networking • MySQL
PostgreSQL • Protocol Buffers • Redis
Solaris • WebSockets • Windows

ABOUT

I am a software engineer specializing in writing efficient Python and Go for low-level embedded environments and scalable backend systems. I have experience with AWS, microservices, Internet of Things, wireless sensor networks, and green energy.

I am happiest building things that other people enjoy using, especially when it aligns with my other hobbies.

EXPERIENCE

DITTO.COM | Backend Software Engineer

January 2017 - Current | San Francisco, CA
I support and implement a cloud-based 3D-rendering and face-scanning service on AWS. The service provides "Virtual Try-Ons" to eyewear e-commerce businesses.

My responsibilities include designing and implementing databases and APIs, diagnosing and improving performance, working with DevOps to deploy products at scale, creating internal and customer-facing tools, mentoring new employees, and participating in the on-call cycle.

Recently I helped lead a team in designing the architecture and implementing a horizontally scalable, distributed image and video processing system on AWS. Some challenges were real-time scaling based upon current demand, reloading configuration without downtime, monitoring, synchronizing states between nodes, and formatting easily searchable logs. All components in the new system have been well documented and diagrammed to allow future and current developers to easily take part in any further development of the system.

Technology Used:

AWS	Django	PostgreSQL	S3
Ansible	Flask	Protocol Buffers	SQS
Consul	OpenCV	Redis	Twisted

SOLARCITY | Embedded Software Engineer

September 2014 - August 2016 | San Mateo, CA
I maintained and added new features to a Python application that ran on small, Linux-powered, embedded devices. The application communicated to various power appliances in order to send power data samples back to a database and a real-time messaging system. It also controlled various settings on the appliance when commanded over the real-time messaging system.

I also spearheaded the effort to get the Python application's build process off of developers' computers and into continuous integration with unit testing, as well as move away from using a SQL-based logging system to using a third-party log management stack.

Technology Used:

Cassandra	Git	MSSQL	TCP/IP
ELK	Jenkins CI	RS-485	WebSockets
Flask	MODBUS	RabbitMQ	ZigBee (802.15.4)

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PROJECTS

DR. WATTSON | Senior Capstone Project (Award-Winning)
Fall 2013 - Spring 2014 | http://goo.gl/PqPYvQ
Designed and built a mesh network of power monitors to measure home power usage patterns and help people conserve energy.

SAMPLIFY | A Python Library for Physical Measurements
2016 | https://github.com/BennettRand/Samplify
A library to keep track of magnitude and unit-aware measurements. The purpose is to simplify the manipulation of physical quantities and ensure incompatible units are not confused with each other.

CAUSE AND AFFECT MICRODONATIONS | Easy Socal Non-Profit Donations
March 2017 | https://causeandaffect.net/
A donation platform built on AWS to facilitate non-profit fundraising within the Twitch livestreaming ecosystem.

AWARDS

2014	Second Place	Engineering Expo. Industry Award, Oregon State University
2014	Honorable Mention	Cornell Cup USA, Presented by Intel
2013	Finalist	Cornell Cup USA, Presented by Intel
2009	Regional Winner	FIRST Robotics Competition, Silicon Valley Regional

REFERENCES AVAILABLE UPON REQUEST.