César A. Lizárraga

e-mail: calizarr@gmail.com
github: http://github.com/calizarr
LinkedIn: http://linkedin.com/in/calizarr

Relevant Experience

- **CiBO Technologies (St. Louis, MO): July 2017 - Present**
  Engagement Engineering Lead (Project Lead / Software Engineer)
  - Led a small team (4-5 engineers) in custom application development for a strategic partnership client that resulted in a multimillion dollar contract
  - Produced sprint planning and project planning documentation while working with business development and leadership
  - Interfaced multiple times per week with various members of the client team to ensure their needs were met
  - Reduced client research time from months to days using a high level business development and product concept to design and architect an industry leading set of tools
  - Developed several services, APIs, and API clients in Scala and Python from prototype to deployment
- **Nanaya (St. Louis, MO): July 2014 - Present**
  Co-founder / Infrastructure & Sofware Engineer / Statistician
  - Supported, managed, and updated infrastructure for application averaging 50 users per day and about 300,000 total
  - Migrated original application infrastructure to a container based model
  - Facilitated communication between developers and R&D Team members
  - Managed team member contributions and source code version control
  - Developed, verified, and tested algorithm(s) for application
- **Donald Danforth Plant Science Center (St. Louis, MO)**
  - **October 2016 - July 2017**
    Senior Computational Scientist
    * Provided computational interface for research groups
    * Trained lab technicians, research scientists, and graduate students in computational infrastructure use
    * PheNode: Developed prototype of Arduino & Raspberry Pi controlled field canopy sensor system
    * https://www.agrelaeco.com/
    * PhenoPiSight: A Fixed Camera Greenhouse-based Phenotyping platform
  - **December 2014 - October 2016**
    Laboratory Technician (Bioinformatics/Statistics) in Mockler Lab
    * Developed, documented, maintained, and tested pipelines for analyzing high throughput sequencing and imaging data
    * Analytics, data management, and development for the Brachypodium ENCODE Project and the EPSCoR Project
    * Coordinated with Bioinformatics Core Director for computational resource management
    * Performed data analysis on a routine basis

Public Projects

PhenoPiSight: Fixed Camera Greenhouse-based Phenotyping Platform

- Used Ansible to automate image capture and transfer of images from 180 Raspberry Pis on a gantry above the greenhouse

- Developed pipeline to take captured images and make dense 3D pointcloud reconstructions (+/- 0.5cm accuracy)
- Trained lab technicians to find phenotypes in 3D reconstructions and compare to ground-based greenhouse measurements
- Example of the 3D reconstruction: https://traitcapture.org/pointclouds/by-id/586a428ef7f5667846b1f8a0

Education

B.A. Mathematics, 2008
Probability and Statistics
Department of Mathematics, Washington University in St. Louis

Engineering Skills

- In order of familiarity:
- Languages: *Scala, Python, R, SQL, Bash, Java*
- Frameworks: *Akka, Django*
- Infrastructure & DevOps: *Kubernetes, Argo Workflow Engine, Helm, Ansible, HTCondor*
- Cloud computing: *AWS, DigitalOcean*
- Software: *GNU Emacs, Git, PostgreSQL, IntelliJ IDEA, NGINX, Travis CI, Jenkins, RabbitMQ*

Languages

- Fluent: *English, Spanish*
- Intermediate: *Italian*