

Berenice Venegas Cotero

DevOps Engineer - AWS Developer Associate certified

Skills

Cloud AWS: Networking, Security, DB, ECS, Autoscaling, ELB
DevOps CloudFormation, Terraform, Consul, Docker,
Automation Atlas, Rspec/Serverspec, TestKitchen, Chef, unit testing
CI/CD Git, CircleCI, Jenkins
Scripting BASH, PYTHON, RUBY
Other Ansible, C++, JAVASCRIPT, R

Experience

- 2015–Present **AWS consultant**, Philadelphia.
Created AWS reliable, scalable and fully automated infrastructure as code using Terraform.
Special attention to following best practices.
◦ HPC cluster to run on demand CHARM simulations in AWS.
◦ Migration of WebSites to AWS: WordPress and Hugo.
- 2011–2015 **Data Scientist**, TEMPLE UNIVERSITY, Philadelphia.
◦ Applied multivariate analysis and statistical inference to correlate lipid profile samples with pathologies.
◦ Applied Bayesian statistics in proteomic and lipidomic profiles to find patterns that would predict anomalies associated with pathologies.
- 2009–2011 **Associate Scientist**, TEMPLE UNIVERSITY SCHOOL OF MEDICINE, Philadelphia.
◦ Produced liposomal nano-particle that efficiently controlled drug leakage.
◦ Manipulated surface characteristics of nano-particle.
◦ Developed a simulations in R to predict surface distribution and diffusion of lipids.
- 2006–2009 **Associate Scientist**, TEMPLE UNIVERSITY COLLEGE OF ENGINEERING, Philadelphia.
◦ Produced a targeted delivered liposomal nano-particle for mammary cancer tumors.
◦ Performed pharmacological analysis to calculate circulation and particle retention times.
◦ Created a custom image analysis to transform 2D fluorescence images of tumors into the 3D tumor/organ fluoresce source to determine actual dye concentration.

Postdoctoral Residences

2003–2006 **Lipid lateral distribution in model membranes**, TEMPLE UNIVERSITY SCHOOL OF MEDICINE, Philadelphia.

- I established a standardized method to detect regularly distributed lipids in model membranes.
- Characterized the critical factors that will affect their detection.
- Utilized custom algorithms to performed statistical data analysis.
- Developed a Monte Carlo simulation in C++ to validate the experimental results.

2003 **Improve patch-clamp infrastructure**, TEMPLE UNIVERSITY SCHOOL OF MEDICINE, Philadelphia.

plemented a brand new setting to cut costs and enhance efficiency of a patch-clamp circuitry. The goal was to reduce the noise level and be able to detect changes of 2pAmps accurately.

Education

1997–2003 **Ph.D. Biophysics**, *Universidad Autónoma del Estado de Morelos*, Mexico, Awarded with Honors.

- Recorded single channel of antimycotic AmB using patch-clamp electrophysiology.
- Determined the conditions for maximal appearance of AmB channels.
- Developed an algorithms and coded in C++ to find the different levels of currents and open time intervals of the channels.
- Describe the function of AmB channels as function of membrane properties using statistical analysis.

1991–1997 **Physics–Astronomy**, *Universidad Autónoma de Baja California*, Mexico.

- Awarded the "Early start in research fellowship" for the project: Dynamical simulations to determine the trajectory memory length in n-body interactions.
- Performed numerical calculations in C++ to follow n-body interaction dynamics.

Awards and Certifications

2016 Diversity Fellowship – DockerCon

2016 AWS – Developer Associate

Presentations

1998-present **Presenter**, *Physics and Biophysics*.
National and International Meetings

Languages

Spanish **Mothertongue**

English **Proficient**

Portuguese **Intermediate**

French **Basic**