Jessica **Elliott**

Software Engineer · Linguist · Audio Engineer

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Work Experience

Software Engineering

Sozo Labs
Full Stack Developer — *Cape Town* — *Apr-Sep 2021*

- Improved existing system: web front-end in Angular and app backend in C# Xamarin; streamlining code, bug fixes, and adding features
- Was instrumental in moving the system onto AWS; wrote documentation on best practices for setting up in AWS and made use of cloud formation
- Set up a user sign-up system with Amazon Cognito which made use of Amazon SES and AWS Lambda

Languages and Skills

Angular, React, Xamarin, AWS Cloud Formation, AWS Lambda, Amazon Cognito, MySQL

Amazon Web Services
Software Development Engineer — *Cape Town* — *Aug 2016 - Sep 2019*

- Worked closely with team members in a small team, taking on tasks as a junior engineer in updating and maintaining code, and using a number of in-house tools and frameworks. Under the guidance of a senior enginner I worked on moving APIs from a legacy networking framework to a newer networking framework, which gave multiple services an increase in efficiency in their network modules.
- Took the lead for my team's contribution to add a new API to the EC2 services (send-diagnostic-interrupt). This involved high level project design around a micro-service architecture, and coordinating with other teams in Cape Town and Seattle.
- Participated in an operational support rotation which involved: responding to critical issues; server maintenance; co-ordinating daily integration, testing, and deployment of the service; and using a monitoring system built on Grafana to analyse metrics.

Languages and skills

Java, Ruby, AWS, system administration and DNS management, Java design patterns, integration testing, continuous deployment, Agile workflows and project management, teamwork across locations and time zones

Amazon Web Services
Software Development Engineer Intern — *Cape Town* — *Feb-March 2013 and Dec-Jan 2014-2015*

- Added a page to a server monitoring website built on Ruby on Rails, enabling users to schedule maintenance on servers.
- Contributed to an in-house reporting tool in Ruby, and got a service onboarded to the tool using Yaml.

Languages and Skills

Ruby on Rails, YAML

Rhodes University Computer Science Department
Graduate Assistant — *Grahamstown* — *Jan 2012 - Dec 2015*

- Tutored and coached undergraduate Computer Science students in a variety of languages (Java, C#, C++, Haskell, MIPS, and others)

Languages and skills

Reviewing code in unfamiliar languages; giving feedback to and mentoring less experienced coders; time management

Music/Audio

Skills

Audio engineering for live bands, solo artists, speakers, and plays. Event and venue management. PA system setup.

National Arts Festival
Sound Technician — *Grahamstown* — *July 2012*

- Venue management and sound engineering for the solo artist music venue, Graham Hotel, during the 11 days of the festival.

Rhodes Live Music Society
Sound Engineer — *Grahamstown* — *2012, 2014*

- Setting up and engineering sound system equipment for live music events organised by the society.

Various churches
Sound engineer - volunteer — *2012-2018*

- Set up and engineering the sound system for church services, various small churches. This involves sound for musicians as well as preachers and other speakers.

Linguistics

E-prime. Data capturing and cleaning.

National English Literary Museum   *Grahamstown*

DATA CAPTURE   *2012*

- Gathering data from online news articles to build a corpus of South African English from 2011, using a sampling frame from the BE06 corpus of British English.

Rhodes University Department of Linguistcs   *Grahamstown*

PROGRAMMING

- Used the E-Prime Pyschology Software Tool to create a reaction-test for a langauge researcher from the Linguistics department to use in her research.

Teaching & Tutoring

Rhodes University Computer Science Department   *Grahamstown*

GRADUATE ASSISTANT (TUTOR)   *2012 – 2014*

- Tutoring groups of undergraduates (from first through third year) in Computer Science. It required being available for students in a support capacity, and included marking and, as part of that, managing mark-sheets.

Private   *Grahamstown*

PRIVATE TUTOR   *Jan – July 2014*

- Teaching the Information Technology curriculum to a pair of grade 11 pupils taking IT as an extra subject.

Private   *Grahamstown*

PRIVATE TUTOR   *July 2009 – July 2010*

- One-on-one play therapy with 2-3 year old autistic boy, focusing on language development.

Projects

Flip Programming Competition

ASSISTANT DEVELOPER

- Assisted in the design and development of a game and web front-end for a programming competition, to encourage students to program for fun. The server for the website was set up using Python and Pyramid.

LANGUAGES AND SKILLS

Python, frontend web design (with HTML5, CSS, Javascript)

Self-hosted Mailserver

PERSONAL PROJECT

- Bought a domain and server space, set up the DNS in Digital Ocean, and built a custom mailserver initially from scratch to learn the details of how a mailserver works, and then using Mailu and Docker.

LANGUAGES AND SKILLS

Mail components (Dovecot, Postfix, certificate management), Docker, system administration, DNS management

Honors & Awards

2009	**Finalist**, Standard Bank IT Challenge	*Rhodes University*
2012	**Second place**, ACM ICPC Regionals	*Rhodes University*
2013	**Second place**, CSIR CyberGames	*Rhodes University*

Presentations

SATNAC   *Port Elizabeth, South Africa*

POSTER PRESENTATION <USING EXTERNAL ETHERNET AVB DEVICES FOR AUDIO PLUG-IN PROCESSING>   *2014*

- Work-In-Progress poster presentation of the work I was doing for my masters research, using the XMOS AVB microcontroller as a hardware plug-in for audio processing

SATNAC   *Hermanus, South Africa*

PRESENTER FOR <AN ETHERNET AVB EFFECTS UNIT IMPLEMENTATION USING XMOS ARCHITECTURE>   *2015*

- Updated and full presentation of the work I was doing for my masters research, using the XMOS AVB microcontroller as a hardware plug-in for audio processing

Education

Bachelor of Arts, Rhodes University   *Grahamstown*
BA in Computer Science and Combined English Literature and Linguistics   *2009-2011*
Instrumental Music Studies 1 (Jazz Voice)   *2010*
Sound Technology 1 (audio engineering and recording, both live and in-studio)   *2012*

Bachelor of Science (Honours), Rhodes University   *Grahamstown*
BSc (Honours) in Computer Science, coursework and dissertation   *2012*
Honours thesis skills: Natural langauge processing with the Python NLTK
Honours coursework modules: AI, Computational Linguistics, Networks, Image Processing, Information Security, Hardware Interfacing

Incomplete - Master of Science, Rhodes University   *Grahamstown*
MSc in Computer Science by dissertation   *2013-2016*
Masters thesis skills: C++, C, and XC; programming microcrontrollers (XMOS); audio networking with AVB; audio processing with VSTs; research and technical writing

Skills Summary

Languages	English, Afrikaans
Programming Languages	Python, Ruby, Java, MySQL, typescript/javascript, C++, C and XC, C#
Frameworks and tools	Angular, React, Xamarin, AVB, E-Prime
DevOps	AWS, Docker, DNS management, system administration, Google cloud
Other programming	Git, unit testing and integration testing, CI/CD, Agile workflows, code review
Concepts	NLP, machine learning, RESTful web dev, Java design patterns, audio processing with VSTs, hardware interfacing
Audio engineering skills	Live sound mixing, recording and editing audio, venue management, PA system setup
Personal skills	Teamwork across locations and time zones, mentoring and tutoring, research and technical writing