

Simbarashe Nyatsanga

Education

- Fall'19-Present **Ph.D. in Computer Science, UC Davis.**
Thesis Advisor: Prof. Michael Neff.
Research focus: Deep Generative Models for Expressive Gesture Generation and Recognition
GPA: 3.90/4.0.
Selected Coursework: Machine Learning, Computer Graphics, Computer Vision, Computer Animation, Natural Language Processing, Design & Analysis of Algorithms, Software Engineering, Computer Architecture, Modern Parallel Computing.
Anticipated Graduation: 06/24
- 2018-2019 **Master of Science in Applied Mathematics, Stellenbosch University.**
Thesis Advisor: Prof. Willie Brink.
Thesis Title: Automatic Video Captioning using Spatiotemporal Convolutions on Temporally Sampled Frames.
- 2009–2012 **Bachelor of Science in Computer Science, University of Cape Town.**

Publications

- 2022 I. Habibie, M. Elgharib, K. Sarkar, A. Abdullah, **S. Nyatsanga**, M. Neff, C. Theobalt, “A Motion Matching-based Framework for Controllable Gesture Synthesis from Speech”, *ACM SIGGRAPH Conference Proceedings 2022*
- 2023 **S. Nyatsanga**, T. Kucherenko, C. Ahuja, G. E. Henter, M. Neff, “A Comprehensive Review of Data-driven Co-speech Gesture Generation”, (*ArXiv Preprint*)

Selected Work Experience

- Summer'21 **Research Intern**, NVIDIA Research, *Santa Clara*
(a) Developing deep learning models for image artefact detection.
- Summer'20 **Research Intern**, US Army Research Lab, *Los Angeles*
(a) Developing deep learning models for human activity recognition using real and synthetic data.
- 2016-2019 **Full Stack Engineer**, ZappiStore, *South Africa*
(a) Principal contributor for a computational library, distributed data caching system, and asynchronous HTML-to-Powerpoint/PDF system.
- 2013-2016 **Full Stack Engineer**, Thoughtworks, *South Africa, Brazil, India, USA*
(a) Developed multi-platform mobile (Android and iOS) and web applications for banking, airline, home moving and cleaning services.

UC Davis Teaching Experience

- Winter'21 **Associate Instructor**, *Fundamentals of Computer Graphics in Maya.*
Fall'20 **CS TA**, *Computer Graphics in OpenGL.*
Spring'20 **CS TA**, *Introductory Python, OOP, Algorithms and data structures.*
Winter'20 **CS TA**, *Introduction to Media Computation in Processing.*

Selected Honours

- 2021 **IBM PhD Fellowship Award, IBM.**
- 2020 **Graduate Research Award, UC Davis.**
- 2011 **Golden Key Honour Society, University of Cape Town.**
- 2009 **Faculty of Science Dean's Merit List, University of Cape Town.**

Selected Skills

Programming Proficient in Python, Ruby, Java, C++, Javascript, TensorFlow, Pytorch, NumPy, Pandas.

Frameworks & Toolkits MySQL, Postgres, MongoDB, Kubernetes, Chef, Ansible, SpringMVC, Ruby on Rails, Flask, Django.

Community service

2021, 2022 **Computer Vision and Pattern Recognition (CVPR)**, *Reviewer*.

2020 **Empirical Methods in Natural Language Processing (EMNLP)**, *Reviewer*.

Invited Talks

2019 **NeurIPS Black In AI Workshop Poster Session**, *Vancouver, Canada*, “Automatic Video Captioning Using Spatiotemporal Convolutions on Temporally Sampled Frames.”

2017 **Python Conference (PyCon) Speaker**, *Cape Town, RSA*, “Distributed caching of Pandas data using Python processes”

2014 **Scale Conference (ScaleConf) Speaker**, *Cape Town, RSA*, “Offloading the Rendering of Web pages to your Clients”