

Rithesh Kumar

Research Scientist at Adobe Research

+1 438-921-8291 | ritheshkumar.95@gmail.com | <https://github.com/ritheshkumar95> | [LinkedIn](#)

Summary

I am an AI researcher with expertise in deep learning and generative modelling. Prior to Adobe, I was the Technical Lead for the Overdub Research team at Descript Inc. where I led the development of the flagship [Overdub](#) and [Regenerate](#) features. I completed my MSc in Computer Science (specializing in Artificial Intelligence) at Mila lab in Université de Montréal supervised by Prof. Yoshua Bengio.

Experience

Research Scientist, Adobe Research , Toronto, Ontario	Aug 2023—Current
AI Researcher, Descript , Montréal, Québec	Nov 2018—Aug 2023
Research Intern, Microsoft Research - Montréal , Québec	Feb 2018—Sep 2018
Research Intern, Lyrebird.ai , Montréal, Québec	May 2017—Feb 2018
Research Collaborator (remote), Mila - Université de Montréal	Apr 2016—May 2017
Research Intern, Serre Lab , Brown University	Jun 2016—Aug 2016

Education

M.Sc, Computer Science (Artificial Intelligence) Université de Montréal (Mila), Montréal, Québec Research Supervisor: Prof. Yoshua Bengio CGPA: 4.15 / 4.3	Sep 2017—Aug 2019
B.E, Computer Science and Engineering Anna University, Chennai, Tamil Nadu CGPA: 8.63 / 10.0 (Rank 46 among 16,449 candidates)	Aug 2013—Apr 2017

Publications

High-Fidelity Audio Compression using Improved RVQGAN [\[paper\]](#)

*Rithesh Kumar**, *Prem Seetharaman**, *Alejandro Luebs*, *Ishaan Kumar*, *Kundan Kumar*
(Submitted) Poster Presentation - NeurIPS 2023

VampNet: Music Generation via Masked Acoustic Token Modeling [\[paper\]](#)

Hugo Flores Garcia, Prem Seetharaman, Rithesh Kumar, Bryan Pardo

Poster Presentation - ISMIR 2023

Chunked Autoregressive GAN for Conditional Waveform Synthesis [\[paper\]](#)

Max Morrison, Rithesh Kumar, Kundan Kumar, Prem Seetharaman, Aaron Courville, Yoshua Bengio

Poster Presentation - ICLR 2022

NU-GAN: High resolution neural upsampling with GAN [\[paper\]](#)

Rithesh Kumar, Kundan Kumar, Vicki Anand, Yoshua Bengio, Aaron Courville

Hosted at Arxiv

MelGAN: Generative Adversarial Networks for Conditional Waveform Synthesis [\[paper\]](#) [\[blog\]](#)

Kundan Kumar, Rithesh Kumar*, Thiubault de Boissiere, Lucas Gestin, Wei Zhen Teoh, Jose Sotelo, Alexandre de Brebisson, Yoshua Bengio, Aaron Courville*

Poster Presentation - NeurIPS 2019

Maximum Entropy Generators for Energy-Based Models [\[paper\]](#)

Rithesh Kumar, Sherjil Ozair, Anirudh Goyal, Aaron Courville, Yoshua Bengio

Masters Thesis

ObamaNet: Photo-realistic lip-sync from text [\[paper\]](#) [\[website\]](#)

Rithesh Kumar, Jose Sotelo, Kundan Kumar, Alexandre de Brébisson, Yoshua Bengio

Oral Presentation - [NIPS 2017 ML for Creativity and Design Workshop](#)

SampleRNN: An Unconditional End-to-End Neural Audio Generation Model [\[paper\]](#)

Soroush Mehri, Kundan Kumar, Ishaan Gulrajani, Rithesh Kumar, Shubham Jain, Jose Sotelo, Aaron Courville, Yoshua Bengio

Poster Presentation - [ICLR 2017 Conference Track](#)

Selected Projects

Reproducing Neural Discrete Representation Learning [\[github\]](#) [\[report\]](#)

Jan 2018—Apr 2018

Rithesh Kumar, Tristan Deleu, Evan Racah - Mila

Reproduced and analyzed Vector-Quantized Variational Autoencoders (VQ-VAEs) ([IFT 6135 - Representation Learning](#) course final project)

Reproducing WYSIWYG: Visual Markup Decompiler [\[github\]](#)

Dec 2016—Jan 2017

Rithesh Kumar, Rithesh Rohan, U. Sivashanmugam - SSNCE

Developed a software tool to deconstruct image of math equations to its corresponding LaTeX markup (Undergraduate final project)

Relevant Courses and Skills

Graduate

[IFT 6135 - Representation Learning](#) - Prof. Aaron Courville

[COMP 767 - Reinforcement Learning](#) - Prof. Doina Precup

[IFT 6269 - Probabilistic Graphical Models](#) - Prof. Simon Lacoste-Julien

[IFT 6080 - Duckietown \(Autonomous Vehicles\)](#) - Prof. Liam Paull

MOOCs

[Data Science Specialization](#) - Johns Hopkins University (Coursera)