

# Dheeraj Varghese

Researcher focusing on multi-modal learning with experience in large scale training

Nationality Indian

Languages English (C1), Malayalam

Amsterdam, The Netherlands

✉ [dheerajvarghese@gmail.com](mailto:dheerajvarghese@gmail.com)

in [in/dheeraj-varghese](https://www.linkedin.com/in/dheeraj-varghese)

🌐 [dhevarghese](https://dhevarghese.github.io)

## EXPERIENCE

### Guest Researcher

#### Universiteit van Amsterdam

📅 Feb 2025 – present 📍 Amsterdam, Netherlands

- Research on Multi-modal Multilingual image generation models with a unified architecture; hosted by [Cees Snoek](#)

### Teaching Assistant

#### Vrije Universiteit

📅 Apr 2024 – May 2024 📍 Amsterdam, Netherlands

- Tutored students on different topics in Natural Language Processing, under [dr. Lucia Donatelli](#).
- Previously, as a TA for [Learning Machines](#), guided students in designing DQN networks for diverse robot tasks

### Research Intern

#### Pennsylvania State University

📅 Jan 2022 – July 2022 📍 State College, PA

- Built an intuitive web interface and visualization of [RAGNAROC](#), a computational model of human visual attention; hosted by [dr. Brad Wyble](#).
- Optimized internal model to reduce execution time by over 50% and handle multiple stimuli in a trial.

### Software Developer Intern

#### Humboldt-Universität zu Berlin, IP

📅 Jun 2021 – Aug 2021 📍 Berlin, Germany

- Collaborated with the founders of a start-up ([Eventasy](#)) to turn an idea into a marketable company.
- Optimized routing and load times up to 10%, reducing performance bottlenecks during peak traffic.

## PROJECTS

### ClipCap Evolved

- Extended the ClipCap approach by integrating the FLAN-T5 (Full & Decoder only) models.
- Conducted experiments to analyze the effects of language models and visual representations from CLIP.
- Improved CIDEr and SPICE scores over the baseline on the Image Captioning task, with only 7 million trainable parameters ([Blogpost](#), [Code](#)).

### Amrita Repository

- Fixed issues and added features on the Android application engineered for my peers to avail old question papers, timetables, etc. which has received 10K+ downloads in [Play Store](#), with an average of 5K monthly active users. ([Code](#))

## EDUCATION

### Master of Science, Artificial Intelligence

#### Vrije Universiteit

📅 Sep 2022 – Aug 2024 📍 Amsterdam, Netherlands

- Supervisors: [dr. Yuki Asano](#) and [Mohammad Derakhshani](#)
- [My research](#) focused on curriculum learning in Visual Language Models.
- In the Health track; granted VUFP, 100% scholarship
- Courses on AI, including DL, NLP, Multi-Agent Systems, Medical AI and Interpretability.
- Final GPA: 8.5 (Dutch grading system).

### B. Tech, Computer Science and Engineering

#### Amrita Vishwa Vidyapeetham

📅 Jul 2018 – Jun 2022 📍 Coimbatore, India

- Worked with [dr. Vidhya Balasubramanian](#) on Distributed Disaster Response Systems.
- Conducted workshops as DL Lead, in the Google Developer Student Club.
- Courses on CS, including Data Structures, Analysis of Algorithms, Theory of Computation
- Final GPA: 9.13 (Indian grading system).

## SKILLS

**DL Frameworks:** PyTorch (2021-present, R&T), Tensorflow (2021-2023), HuggingFace (2022-Present, R) (R - Research, T - Teaching)

**Programming languages:** Python (2019-present), HTML (2016-present), Java (2014-2022), C (2018-2022)

**Additional skills:** SLURM cluster (2023- present), git (2020-present), Docker (2020-present)