# Sai Prasanna Raman

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## Professional Experience

**Research Assistant,** *Robot Learning Lab, University of Freiburg*　　　　Dec 2021 – present
- Research in model-based reinforcement learning for Cross embodiment generalization in robotics.
- Creating robotics environments in NVIDIA Isaac simulator.

**Staff Machine Learning Scientist,** *Agara Labs*　　　　Jun 2021 – Oct 2021
- Improved the accuracy of a hierarchial text classification system for voice support using large language models.

**Machine Learning Engineer,** *Zoho Corporation*　　　　Nov 2017 – May 2021
**Grammatical Error Correction**
- Developed a grammatical and contextual error correction system with deep learning for Zoho Writer. This system has successful proofread millions of user written sentences.
- Improved the model's accuracy by applying semi-supervised learning, data augmentation, architectures with better inductive bias, and transfer learning.
- Scaled model inference by applying quantization, distillation, and pruning.
- Released a beta model for the spanish language and active research on adding new languages to assist diverse language writers with their proofreading.
- Mentored engineers to convert research in areas like fine-grained grammatical error classification to production.
- Contributed back to open source projects such as AllenNLP and FairSeq.

**NLP Suite**
- Made key architecture choices for multiple services in Zoho's NLP suite such as translation, question answering, and language detection.
- Designed a scalable semantic search system by incorporating advances in approximate nearest neighbours search and semantic vectors from deep neural nets.
- Collaborated with legal experts and data annotators to adopt Prodigy framework for annotating legal text.

**Software Engineer,** *ManageEngine, Zoho Corporation*　　　　Apr 2015 – Oct 2017
- **Remote Desktop Linux Agent** - Spearheaded the creation of remote desktop client for GNU/Linux platform, expanding the platforms that can be remotely managed by the users of Desktop Central and Zoho Assist.
- **Desktop Central Mobile App** - Sole developer of the iOS app for network management. Lead the team which built the Android app for the same.
- **Mobile Remote Desktop Viewer** - Created the remote desktop client for mobile and tablet in Desktop Central.

## Research

**When BERT Plays the Lottery, All Tickets Are Winning!,** *EMNLP* ⧉　　　　2020
Sai Prasanna, Anna Rogers, Anna Rumshisky
Analyzed pruned sub-networks in BERT in the context of fine-tuning. Used pruning as a novel approach for interpretability.

**Zoho at SemEval-2019 Task 9: Semi-supervised domain adaptation**　　　　2019
**using tri-training for suggestion mining,** *NAACL* ⧉
Sai Prasanna and Ananda Seelan
Incorporated transfer learning and semi-supervised learning for domain adaptation reaching **third place** in the leaderboard for the domain transfer Subtask (B).

## Education

**Master of Science - Computer Science,** *University of Freiburg*　　　　Oct 2021 – present | Freiburg, Germany
Specialization in Artificial Intelligence **GPA**: 1.3

**Bachelor of Engineering - Computer Science,** *Anna University*　　　　Jun 2011 – Apr 2015 | India

## Skills

| **Research Areas** | **Programming Languages** | **Libraries/Frameworks** | **Other Skills** |
|---|---|---|---|
| *Reinforcement Learning, Model-Based RL, Transfer Learning* | *Python, Swift, Javascript, Go* | *Pytorch, NVIDIA Isaac Sim, AllenNLP* | *Flask, Django Web Framework, React JS* |