DAMIANO CARRIOLI

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Sr. Software Engineer, Visa Inc.

Education

Master of Science, Computer Science — **Los Angeles, CA**

University of Southern California

GPA 3.462

Bachelor of Science, Computer Science, Minor in Mathematics — **Los Angeles, CA**

University of Southern California

Magna Cum Laude, GPA 3.75

Experience

Sr. Software Engineer — **SEP 2022-PRESENT**

Visa Inc. (Foster City, CA)

Designed, built, and tested new features for Visa's B2B connect platform, the non-card based, end-to-end payment eco-system for businesses. visa-b2b-connect.html

Graduate Researcher — **JAN 2022-MAY 2022**

FPGA/Parallel Computing Lab (USC)

Developed an FPGA accelerator for mode-agnostic, sparse Matricized Tensor Times Kathri-Rao product. Achieved 15.7% and 11.3% speedup in execution time on real-world sparse tensors compared to state-of-the-art CPU and GPU implementations. Results to be published at the International Symposium on FPGAs 2023.

Software Engineering Intern (Paid) — **MAY 2021-AUG 2021**

Visa Inc. (Foster City, CA)

Fine-tuned a Bert-based natural language virtual assistant that performs answer selection given a question and a set of answer candidates. Leveraged the tool to retrieve information about payment status and account balances. Also implemented custom scripts and APIs to interface with the company's databases to retrieve relevant data.

Projects

Neural Style Transfer (PyTorch)

Trained a custom PyTorch model based on the VGG architecture using transfer learning techniques to apply the style of one image to the content of another image. Used gradient descent, to minimize the loss between the generated image and the target style and content representations.

Autoregressive Language Models (PyTorch)

Strong interest in exploring the capabilities of autoregressive language models and experimenting with various types of attention. Implemented and modified different types of attention mechanisms, such as multi-head attention and created my own highly non-linear attention layers.

Skills

Programming Languages

Python, C, C++, Java, Scala, SQL.

Machine Learning

Proficiency in Python and extensive experience working with deep learning frameworks, including PyTorch, TensorFlow, and JAX.

Relevant Grad Coursework

Foundations of A. I.
Applied Natural Language Processing
Foundations and Applications of Data Mining
Parallel Programming

Parallel Programming

Familiarity with various parallel programming paradigms, including CUDA, OpenMP for C and C++, Message Passing Interface (MPI), and Python libraries such as Cupy, Numba, and Pyspark.

Activities

D1 Track & Field

Undergraduate D1 pole vaulter for the USC Trojans, PR: 4.51 m.