Sabine Nicolle

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https://github.com/sab76

EDUCATION

University of California Irvine | Bachelor of Science in Computer Science   Irvine, CA
Honors: Dean's Honor List, *cum laude* (GPA: 3.89)   April 2024

SKILLS

Programming	C/C++	Python
	Delphi	Java	MIPS assembly	Swift
ML and Data Science	Numpy	Matplotlib	PyTorch	Tensorflow	Sklearn	Pandas
Web	HTML **	** SQL	REST
Hardware	FPGA design	Verilog	Lab debugging
Miscellaneous	Git	DialogFlow CX	Stable Diffusion	Adobe Photoshop

EXPERIENCE

Digital Human AI Designer | UCI micro-internship   August 2023 - September 2023
- Designed digital human avatars to replace traditional chatbots using Google Cloud Platform to build dialog flows while integrating GPT-3.5

Art-Based Online Store   October 2017 - Present
- Designed merchandise, managed inventory and shipping
- 2,500 units sold of a single listing within two years

PROJECTS

Machine Learning and Data Analysis for Settlement & Electricity Detection in Sub-Saharan Africa (team of four) **|** *Python, PyTorch Lightning, W&B, GitHub*
- Preprocessed and sub-tiled satellite images with data augmentation, implemented and trained various semantic segmentation models, including three baseline models (SegNet, UNet, FCNResNet) and a modified SqueezeNet architecture, using PyTorch Lightning
- Utilized Weights and Biases for model training monitoring, hyperparameter tuning and model validation

Web Scraper and Search Engine | *Python, BeautifulSoup, Tmux, Gradio, Linux, GitHub*
- Created a Linux web crawler, partial inverted indexes using stemming and tokenization, merged partial indexes to create one alphabetized index, along with storing other statistics
- Created Gradio interface to return URLs which corresponded to search queries using boolean search or cosine similarity using the tf-idf vectors for each document and token

iOS App Smart Academics, Wellness, and Rest Planner | *Swift, Xcode, Canvas LMS REST API, Apple HealthKit*
- Integrated Canvas with health data to optimize study, fitness, and rest schedules
- Built a recommendation engine for personalized advice using Swift

Checkers AI Agent using Monte Carlo Tree Search | *C++, Linux*
- Implemented MCTS in C++ which played against other bots in the class, achieving a 70 - 80% win rate

FPGA VGA Graphic Engine with Sprite Support | *Quartus, Verilog*
- Displayed background and sprite tiles with inputs in C++