AHNJILI ZHUPARRIS, PHD

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CAREER SUMMARY

I am an AI engineer and science communicator with a PhD in Medicine. My current work as an AI engineer is centered on harnessing AI, particularly generative AI, for advanced facial detection, recognition, analysis, and manipulation. My doctoral research focused on building python libraries to support the extraction and analysis of mHealth biomarkers for clinical trials. Currently, through my studio, I create AI-driven tools (such as customizable speech synthesis and image-to-soundscapes) to create open-source accessibility tools for the blind and visually impaired and I provide beginner's guides to AI, generative AI, and deepfakes workshops to bachelor and master's students. I am also deeply committed to science communication and artistic projects that critically examine and illuminate the ethical implications and biases inherent in AI technologies.

SKILLS & QUALIFICATIONS

Programming Languages: Python, R, Pyspark, SQL, Javascript
Analytics: Machine Learning (using PyTorch, TensorFlow, and Sklearn), Generative AI, Computer Vision, Data Mining, Voice Analysis, Text-to-Speech, Speech Synthesis, Natural Language Processing
Cloud Platforms: Azure, Google Cloud Platform (GCP), Heroku, Amazon Web Services (AWS)
Languages: English (Native Language), Mandarin (B1), Dutch (B1)
Website: www.artificialnouveau.com
Git: https://github.com/artificialnouveau

WORK EXPERIENCE

REALFACEVALUE **September 2023 – Ongoing**
Artificial Intelligence Engineer

- **Generative AI Research and Development:** Specialized in the research and implementation of generative AI models, with expertise in code generation, unit testing, refactoring, and optimization.
- **Prompt Engineering, GAN Models, and Diffusion Models:** Experience in designing and refining prompts for content creation. Skilled in applying GAN and diffusion models to generate images.
- **Human-Centered AI Design:** Engaged in the development of AI systems that prioritize human needs, usability, and collaboration. Involved in interactive machine learning processes to incorporate human feedback into the training and refinement of AI models.
- **Image Pre and Post-Processing:** Utilizing image processing techniques such as masking, morphology, alignment, warping, and composition to prepare and enhance images.

CENTRE FOR HUMAN DRUG RESEARCH **September 2018 – September 2023**
Lead Data Scientist

- **Disease Classification and Treatment Effects Detection:** Conducted research on classifying diseases, estimating disease severity, and detecting treatment effects using data from smartphones (consisting of text, audio, voice and location data), wearables, and electronic Patient Reported Outcomes (ePro).
- **Comprehensive Literature Reviews:** Performed extensive reviews to gather relevant insights and remain current with advancements in disease classification and digital health technologies.
- **Statistical Analysis Protocols Development:** Created and implemented statistical analysis protocols to guide research methodologies and ensure robust and reliable data analysis.

ARTIFICIAL NOUVEAU **January 2018 – Ongoing**

Freelance AI engineer and Science Communicator for the Creative Industry

- **Custom Software Development:** Created specialized analytical and generative algorithms for innovative applications in creative voice cloning and image generation.
- **Machine Learning and Ethics Advocacy:** Presented talks and participated as a panelist and juror at various events, contributing to discussions at the intersection of machine learning and ethics.
- **Workshop Design and Delivery:** Designed and led workshops on data mining, generative AI, computer vision, and machine learning, offering practical insights and hands-on learning experiences for participants.
- **Screen-to-Soundscape Project:** Initiated the Screen-to-Soundscape initiative to reimagine screen reader technology as immersive soundscapes. Conducted in-depth research with blind and visually impaired users to identify limitations in traditional screen readers and explored AI-generated customized voices and image-to-text solutions to improve digital accessibility.

EDUCATION

PhD LEIDEN UNIVERSITY, NETHERLANDS **2020 - 2024**

Doctor of Philosophy (PhD) in Medicine (primarily focused on applied machine learning for clinical trials)

MSc RADBOUD UNIVERSITY NIJMEGEN, NETHERLANDS **2015 - 2017**

Research Master's Degree in Cognitive Neuroscience

BSc UNIVERSITY OF EDINBURGH, UNITED KINGDOM **2011 - 2015**

Biomedical Bachelor's Degree with Honours in Neuroscience

AWARDS & FUNDING

PROCESSING FOUNDATION FELLOWSHIP **JUNE 2024**

Through the Processing Foundation Fellowship, I aimed to advance the Screen-to-Soundscape project by integrating the principles of digital accessibility into an innovative, open-source framework. This project reimagines screen readers as immersive soundscapes, promoting inclusivity and enabling the creative exploration of web content.

MOZILLA CREATIVE MEDIA AWARDS **DECEMBER 2020**

Future Wake, an interactive website, received the Mozilla 2021 Creative Media Award. The project uses AI to analyze data relating to fatal police encounters in the U.S. and predict future incidents.

REFERENCES

PROF. DR. WESSEL KRAAIJ
Leiden Institute for Advanced Computer Science, Netherlands
w.kraaij@liacs.leidenuniv.nl

DR. ROBERT-JAN DOLL
Centre for Human Drug Research (CHDR), Netherlands
rjdoll@chdr.nl

PROF. DR. ADAM WINSTOCK
Global Drug Survey, UK
adam@globaldrugsurvey.com

JOURNAL PUBLICATIONS (click here for more publications)

Doctorate Thesis: Zhuparris, A. (2024, June 13). Development of machine learning: derived mhealth composite biomarkers for trial@home clinical trials. https://tinyurl.com/ahnjilithesis

Zhuparris et al., Machine Learning Techniques for Developing Remotely Monitored Central Nervous System Biomarkers Using Wearable Sensors: A Narrative Literature Review. Sensors 2023, 23, 5243. https://doi.org/10.3390/s23115243