IEEE MIAMI SECTION

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IEEE Miami Section Invited Seminar Announcement

"ChatGPT and Beyond: Exploring the World of Large Language Models and their Applications."

Speaker: Mark Chen, Research Scientist, Open AI
Date: April 7th, 2023
Lecture: 9:00AM to 10:00AM, Room EC-3930

Abstract:

This talk will provide an overview of large language models (LLMs) and surrounding generative technologies, their development, and applications across various domains. It is tailored for a technical audience with limited exposure to Artificial Intelligence (AI). I will begin with a brief history of language modeling, outlining key developments that have culminated in the emergence of advanced LLMs such as ChatGPT. Subsequently, I will introduce the fundamental principles that drive the efficacy of LLMs, focusing on their ability to lead and represent complex language patterns. I will discuss the technical challenges involved in scaling LLMs as well as the remarkable properties that have emerged at scale, such as the ability to tackle new tasks with no or minimal new training data. I will further introduce representation learning through language modeling and its role across a range of applications. Beneficial AI systems must be both useful and harmless. ChatGPT, a cutting-edge language model developed at OpenAI, was trained using Reinforcement Learning from Human Feedback (RLHF) and other alignment techniques to optimize its behavior and safety. I will give a high-level overview of RLHF and its importance in creating safe and beneficial AI. I will conclude with LLMs applications across other domains, such as DNA and protein sequence modeling.

Speaker's Bio:

MARK CHEN is the Head of Multimodal and Frontiers Research at OpenAI. He led the teams that produced DALL-E2 and introduced vision to GPT-4. As a research scientist at OpenAI, Mark also led the development of Codex (the AI system that powers Github Copilot. contributed to the development of GPT-3 and created Image GPT. Prior to joining OpenAI, Mark worked as a quantitative trader at several proprietary trading firms (including Jane Street Capital), where he built machine learning algorithms for equities and futures trading. Mark's research impact in the field of AI is also reflected from the citations of his publications. One of his papers published in 2020 was cited 8878 times while another. publication in 2021 was cited 1380 times. After graduation from MIT in mathematics and computer science, Mark also served as coach for the USA Computing Olympiad team.

For more information, please contact:

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