PHILLIP PENG

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SUMMARY

Accomplished Data Strategist and Machine Learning Engineer with a robust track record in spearheading AI/ML innovations and deploying machine learning models in high-stakes production environments. With a specialty in crafting complex data pipelines, model fine-tuning, and performance optimization, I bring forth a blend of technical acumen and strategic insight. I excel at rallying cross-functional teams to harness the power of data-driven solutions, driving significant business impact. My academic background in Agricultural Economics, complemented by ongoing development in AI, Machine Learning, and Project Management, equips me with a unique perspective and versatile skill set in the tech landscape.

WORK EXPERIENCE

AI Made Easy (AIME) | Ellicott City, MD
Chief Technology Officer, Jan 2023 - Present

- Pioneered the development and deployment of cutting-edge Applied AI products, focusing on delivering scalable solutions for high-availability production environments.
- Engineered and refined complex data pipelines, seamlessly integrating advanced machine learning models to boost operational efficiency and scalability.
- Directed groundbreaking projects in the creation of sophisticated recommendation systems and demand forecasting models utilizing state-of-the-art Graph Neural Networks.
- Demonstrated deep proficiency in software development life cycle (SDLC) methodologies, ensuring the ongoing monitoring and robust performance of AI systems through expert troubleshooting and maintenance.

Key Achievements:

- Instrumental in driving the innovation and rollout of transformative Generative AI products, significantly impacting business intelligence and operational efficiency.
- Conceptualized and launched a Consumer Insight Application, leveraging AI to automate the extraction of consumer insights and deliver personalized recommendations from diverse unstructured data sources, including chat interfaces, social media platforms, web content, and call center transcripts.
- Expertly fine-tuned a large language model to create a Multilingual AI Translation Application, facilitating seamless document and voice translations across multiple languages for academic publishing, business communications, and literary work.
- Developed a custom GPT-based Chatbot for the University of Maryland School of Medicine, providing doctors and researchers with an intuitive tool for fast retrieval and summarization of pertinent information across an extensive array of journals and databases and clinic records.

Walden University | Columbia, MD
Director of Applied AI, August 2009 – January 2023

- Advanced from Senior Analyst to Director (2019), leading the strategic development and integration of AI-driven solutions across business operations, ensuring alignment with core business goals.
- Drove innovation in critical domains such as natural language processing (NLP), recommendation engines, predictive analytics, and reinforcement learning, delivering tangible outcomes in line with organizational objectives.
- Forged a significant partnership with Google, contributing to the co-development of an AI-powered tutoring system that leverages advanced NLP and knowledge graph technologies.
- Championed the full model lifecycle management, encompassing development, deployment, rigorous monitoring, and continuous optimization within production settings.

Strategic Initiatives and Leadership:

- Crafted and implemented a comprehensive roadmap for the evolution of Machine Learning and Applied AI products, ensuring a forward-thinking approach to data-driven decision-making.
- Pioneered the expansion and professional development of a high-caliber data science team dedicated to the delivery of ML and Applied AI products with a focus on excellence.
- Spearheaded the modernization of our data and machine learning infrastructure in collaboration with key technology partners, enhancing our analytical capabilities.
- Led the upskilling initiative for Data Scientists in cloud technology, MLOps, and Agile methodologies, significantly elevating our team's technical proficiency and agility.

Impactful ML Products and Contributions:

- Developed and maintained a dynamic monthly enrollment forecast model for over 90 academic programs, empowering executive decision-making, including that of the corporate CFO, for multi-million-dollar executive decisions.
- Conceived and executed a predictive compliance model, accurately forecasting the financial aid cohort default rate (CDR) and debt-to-earning (DTE) ratios three years in advance. This enabled university leadership to make strategic decisions and uphold the institution's reputation. This achievement led to my receiving the Outstanding Corporate Innovation Award in 2015, selected from among 10,000+ employees.
- Innovatively designed and deployed a predictive model to accurately forecast daily call volumes for various call center task forces, enabling strategic staffing optimization and resource allocation.
- Devised and launched a sophisticated Customer Lifetime Value (CLV) predictive model, guiding pivotal marketing and advertising budget decisions, significantly improving the ROI of marketing campaigns.
- Engineered predictive debt collection risk models that significantly improved the efficiency and effectiveness of the student financial management team's planning and outreach efforts, optimizing overall debt collection results.
- Implemented ML model explainability techniques in student retention risk models and lead conversion models, providing actionable insights to enhance retention rates and conversion efforts through proactive engagement strategies.
- Utilized causal analysis to quantify the impact of marketing campaigns, driving more effective allocation of marketing resources.
- Built a centralized offer database to support comprehensive offer analysis and developed a price optimization model employing a multi-armed bandit approach, optimizing financial outcomes.
- Created personalized recommendation systems for website content and actionable next-best steps for both prospective and current students, enhancing user experience and engagement.
- Designed and iterated on marketing mix models and multi-touch attribution analysis, empowering the optimization of marketing strategies for maximum ROI.
- Developed and implemented advanced topic modeling and sentiment analysis methodologies to distill actionable business insights from a diverse array of communication channels, including phone calls, emails, chat interactions, surveys, and online social media reviews, thereby enhancing customer experience and business intelligence.

Merkle Direct Marketing | Columbia, MD
Sr. Statistician, February 2008 - August 2009

- Developed analytics solutions for clients, integrating predictive modeling and customer profiling.
- Enhanced modeling processes, focusing on scalability and efficient deployment in client environments.

Kobie Marketing | St. Petersburg, FL
Database Marketing Analyst, March 2007 - January 2008

- Conducted advanced data analysis, laying the groundwork for model development and data pipeline optimization.

CORE COMPETENCIES

- Demonstrated mastery of the Machine Learning Development Lifecycle, including hands-on experience with advanced techniques such as Transformers and Generative Adversarial Networks (GANs).
- In-depth expertise in the architecture and refinement of Data Pipelines, ensuring seamless and efficient AI/ML application performance.
- Adept in Model Monitoring, Performance Tuning, and Troubleshooting, ensuring high reliability and accuracy of deployed models.
- Proficient in Speech Recognition, Natural Language Processing (NLP), and Reinforcement Learning, with a track record of delivering innovative solutions.
- Skilled in leveraging a suite of machine learning and deep learning frameworks, including NumPy, scikit-learn, Keras, PyTorch, and TensorFlow, to drive analysis and model development.
- Strong collaborator with a history of effective Cross-Functional Team Leadership and Project Management, ensuring cohesive efforts and timely delivery of complex projects.

EDUCATION

- PhD in Agricultural Economics, University of Kentucky | Lexington, KY, 2006
- Master in Agricultural Economics, North Carolina Agricultural and Technical State University | Greensboro, NC 2000-2002

GPT： https://bit.ly/visualMentorGPT