Jennifer Quay Minnich

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Degree: Master of Science in Computer Science from a top STEM university
Research area: Artificial Intelligence and Machine Learning
Technical skills: data science, software engineering in Python, Java, C, SQL

Professional Experience

2022-present **AI/ML Researcher**, *Institute for Complex Additive Systems Analysis (ICASA)*.
- Novel research in deep learning and neural networks, resulting in 2 papers.
- Data mining, model creation, experimentation, and documentation with Sandia National Labs.
- Innovation and commercialization of tooling, securing over $300k in funding from stakeholders.
- Developed and piloted a machine learning series for team training.

2021-2022 **Software Engineer**, *Institutional Research*, New Mexico Tech.
- Streamlined student data reporting and visualization, reducing manual analysis time by 60%.
- Comprehensive data analysis for over 3k students on metrics like course grades, gender, and ethnicity.
- Provided data-driven intelligence, influencing allocation of over $400k in research funding per year.

2017-present **Consultant & Technical Lead**, *Consumer51 and Independent Consulting*.
- Full-Stack Development: Led the design and development teams of 10+ award-winning web apps with global distribution.
- Boosted ecommerce client traffic by 40% through SEO, lead gen, data and web analysis, ui/ux audits.
- Established and monitored key performance metrics.
- Ongoing Consultancy: Continuously engaged in consultancy roles alongside full-time responsibilities.

Notable Projects

2023 **Analysis of GitHub Repositories through Neural Networks**.
- Profiled TensorFlow repository users based on their contribution and activity patterns.
- Leveraged LVQ , LSTM, and graph neural networks to predict user activity within the repository.

2023 **Natural Language Interface for NM Tax Data**.
- Simplified user interaction with complex datasets by fine-tuning Llama 2.
- Trained the open-source large language model to generate custom database SQL queries from natural language prompts.

2022 **Classification of Malicious Cyber Activity via Machine Learning**.
- Determined efficacy for categorizing events as being either routine or anomalous.
- Applied clustering algorithms, isolation forests, feature-engineering, and encoding strategies.

2022 **Stock Bought Stock Trading Project**.
- Engineered a toolkit that deployed algorithmic trading strategies on an application platform.
- Empowered novice investors to formulate, validate, and automatically trade stocks.

2022 **Great Minds in STEM Data Analytics Competition**, *Pasadena, California*.
- Predicted book ratings with user-user collab filtering method.
- Optimized predictions based on Root Means Square Error, selecting book values from the most similar user groups.

Professional Tools

- TensorFlow, PyTorch, Numpy, Pandas, Scikit-learn, Matplotlib
- Open AI, Llama2, HuggngFace
- business development, research commercialization, stakeholder engagement, forecasting

Education

2020-2024 **MS Computer Science & Engineering**, New Mexico Tech GPA: 3.5.
- Merit based CAHSI S-STEM scholar
- Tau Beta Pi Engineering Honors Society
- Member of TRIO (first generation college student)

Awards & Scholarships

2022-2023 **S-STEM**, Merit Based Award, New Mexico Institute of Mining & Technology
2019 **Game Changer**, Professional Achievement Award, Consumer51 Agency
2019 **Women in Technology Scholarship**, Academic & Professional Scholarship, New Mexico Technology Council

Professional Organizations

2023-2024 Partner of New Mexico Technology Council
2021-current Member of AAAI Association for the Advancement of Artificial Intelligence