WILLIAM CONRAD

AI & Data Scientist
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San Francisco, CA | Portfolio: github.com/fullmax0111/portfolio

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PROFESSIONAL SUMMARY

Innovative AI and Data Scientist with extensive experience developing and implementing machine learning solutions across multiple industries. Skilled in deep learning, natural language processing, and computer vision technologies with a proven track record of translating complex business problems into data-driven solutions. Combines strong technical expertise with excellent communication skills to bridge the gap between technical concepts and business stakeholders.

TECHNICAL SKILLS

Programming & Development

- **Languages**: Python (10+ years), R (7+ years), SQL (8+ years), Julia (3+ years), Java (5+ years), Scala (4+ years), JavaScript (3+ years)
- **Development Tools**: Git, VS Code, Jupyter, PyCharm, Docker, Kubernetes
- **Software Design**: OOP, Functional Programming, Microservices Architecture, API Development (REST, GraphQL)

Machine Learning & AI

- **Frameworks & Libraries**:
  - TensorFlow 2.x (Expert), PyTorch (Expert), Keras (Advanced), scikit-learn (Expert)
  - Hugging Face Transformers, spaCy, NLTK, Gensim, AllenNLP
  - OpenCV, PIL, Detectron2, MMDetection
  - XGBoost, LightGBM, CatBoost, Random Forest, SVM, KNN
- **Deep Learning**:
  - Neural Network Architectures: CNN, RNN, LSTM, GRU, Transformers, GANs, VAEs
  - Transfer Learning, Fine-tuning, Knowledge Distillation
  - Custom Loss Functions, Model Regularization Techniques, Hyperparameter Optimization
  - Vision Transformers (ViT), BERT, GPT, T5, CLIP, Stable Diffusion
- **Reinforcement Learning**:

    - Q-Learning, DQN, A3C, PPO, TRPO
    - OpenAI Gym, Stable Baselines3

Natural Language Processing

- **Techniques**: Tokenization, Lemmatization, Named Entity Recognition, Sentiment Analysis
- **Advanced NLP**: Document Classification, Topic Modeling, Text Summarization, Question Answering
- **Languages**: BERT, RoBERTa, GPT-3/4, LLaMa, LLM Fine-tuning and Prompt Engineering
- **Vector Embeddings**: Word2Vec, GloVe, FastText, SBERT, OpenAI Embeddings

Computer Vision

- **Techniques**: Object Detection (YOLO, Faster R-CNN, SSD), Image Segmentation (U-Net, Mask R-CNN)
- **Applications**: Facial Recognition, Pose Estimation, OCR (Tesseract, EasyOCR)
- **Video Analysis**: Action Recognition, Object Tracking, Video Summarization

Big Data & Cloud

- **Big Data Technologies**:
    - Apache Hadoop Ecosystem (HDFS, MapReduce, YARN)
    - Apache Spark (PySpark, SparkML, Spark Streaming)
    - Kafka, Airflow, NiFi, Hive, HBase
- **Cloud Platforms**:
    - AWS: EC2, S3, Lambda, SageMaker, EMR, Redshift, Comprehend, Rekognition
    - Azure: Azure ML, Databricks, Cognitive Services, Data Factory
    - Google Cloud: Vertex AI, BigQuery, DataFlow, Cloud Vision, Cloud Natural Language

MLOps & Data Engineering

- **MLOps**:
    - Model Versioning & Tracking: MLflow, Weights & Biases, DVC
    - CI/CD: GitHub Actions, Jenkins, CircleCI, GitLab CI
    - Model Serving: TensorFlow Serving, TorchServe, ONNX Runtime, Triton Inference Server
    - Feature Stores: Feast, Tecton
- **Data Engineering**:
    - ETL/ELT Pipelines: Airflow, Luigi, dbt
    - Data Validation: Great Expectations, Deequ
    - Streaming: Kafka, Spark Streaming, Flink

Data Visualization & BI

- **Tools**: Tableau, Power BI, Looker, Grafana, Kibana
- **Libraries**: Matplotlib, Seaborn, Plotly, Bokeh, D3.js
- **Dashboard Development**: Interactive visualizations, Real-time analytics dashboards

Specialized AI Areas

- **Recommendation Systems**: Collaborative Filtering, Content-Based, Hybrid Models, Matrix Factorization
- **Time Series Analysis**: ARIMA, Prophet, DeepAR, Temporal Fusion Transformers
- **Anomaly Detection**: Isolation Forests, Autoencoders, LSTM-based approaches
- **Explainable AI**: SHAP, LIME, Integrated Gradients, Attention Visualization

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PROFESSIONAL EXPERIENCE

SENIOR AI SCIENTIST | TechInnovate Inc. | San Francisco, CA | 2020 - Present

- Led the development of a transformer-based NLP system that improved customer service response accuracy by 42%
- Architected and deployed a real-time computer vision solution for manufacturing quality control, reducing defects by 31%
- Mentored a team of 5 junior data scientists, establishing best practices for model development and deployment
- Designed and implemented an MLOps pipeline that reduced model deployment time from weeks to hours
- Collaborated with cross-functional teams to identify AI opportunities, resulting in 3 new product features

DATA SCIENTIST | DataVision Analytics | Boston, MA | 2018 - 2020

- Developed predictive models for customer churn that increased retention by 18%, saving approximately $2.4M annually
- Created and implemented a recommendation engine that improved e-commerce conversion rates by 24%
- Engineered data pipelines processing over 10TB of data daily using Spark and Airflow
- Conducted A/B tests to optimize algorithm performance and user experience
- Presented technical findings to C-level executives and translated complex results into actionable insights

AI RESEARCH INTERN | Research Innovations Lab | Seattle, WA | Summer 2017

- Contributed to research on reinforcement learning algorithms for autonomous systems

- Implemented and tested novel deep learning architectures for time-series prediction
- Co-authored a research paper presented at the International Conference on Machine Learning

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EDUCATION

Ph.D. in Computer Science, Specialization in Machine Learning

Stanford University | 2014 - 2018

- Dissertation: "Adaptive Deep Learning Approaches for Time-Series Forecasting"
- GPA: 3.95/4.0

M.S. in Statistics and Data Science

Massachusetts Institute of Technology | 2012 - 2014

- Thesis: "Probabilistic Graphical Models for Multimodal Data Integration"
- GPA: 4.0/4.0

B.S. in Computer Science and Mathematics (Double Major)

University of California, Berkeley | 2008 - 2012

- Graduated Summa Cum Laude
- GPA: 3.92/4.0

PUBLICATIONS & PROJECTS

- Conrad, W., et al. (2022). "Transfer Learning Approaches in Low-Resource NLP Domains." *Journal of Artificial Intelligence Research*.
- Conrad, W., et al. (2020). "Efficient Architectures for Real-Time Computer Vision in Edge Devices." *Conference on Computer Vision and Pattern Recognition (CVPR)*.
- **Open-Source Project**: TimeSeriesAI - A library for time series forecasting with deep learning (3000+ GitHub stars)
- **Personal Research**: Developed novel approach to few-shot learning in computer vision tasks (implemented in PyTorch)

CERTIFICATIONS

- AWS Certified Solutions Architect - Professional
- Google Professional Data Engineer
- Deep Learning Specialization (deeplearning.ai)
- TensorFlow Developer Certificate

SPEAKING ENGAGEMENTS

- Keynote Speaker, "The Future of AI in Healthcare," AI Summit 2022
- Panelist, "Ethical Considerations in Machine Learning," Data Science Conference 2021
- Workshop Leader, "Practical MLOps for Data Scientists," PyData 2020

References available upon request