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<https://github.com/danvargg>

Summary

Daniel is a results-driven professional with over 16 years of diverse experience in continuous improvement, business systems analysis, and cutting-edge technologies including machine learning, deep learning, computer vision, and natural language processing. Adept at leveraging advanced data analytics to drive operational excellence and streamline processes across multiple industries, including neuroscience, medical devices, aerospace, railways, consulting, and consumer products. Demonstrated track record of delivering innovative solutions, optimizing business performance, and enhancing customer experiences. Proven ability to lead cross-functional teams, identify opportunities for growth, and implement strategic initiatives.

Areas of Expertise:

- Deep Learning
- Machine Learning
- Continuous Improvement
- Computer Vision
- Natural Language Processing (NLP)
- Machine Learning Operations (MLOPs)
- Data Analytics
- Business Systems Analysis
- Statistical Modeling

Main tech stack: Python, C#, SQL, Tensorflow, Keras, Pytorch, Scikit-Learn, XGBoost, Amazon Web Services (AWS), Git, Github, fastAPI, MLFlow, Docker.

Experience



Director, AI Development

Innodem Neurosciences

Feb 2021 - Apr 2023 (2 years 3 months)

- Conducted code refactoring (Python) to improve overall codebase quality, readability, accessibility and maintainability, ensuring PEP-8 and OOP practices in the process
- Implemented comprehensive unit tests for the development and production deep learning pipelines, ensuring 80% code coverage on over 350 features
- Ensured compliance with Software of Unknown Provenance (SOUP) regulations, ensuring that all software components used in the system were adequately evaluated for quality and security
- Ensured compliance with electronic personal health information (ePHI) privacy and security regulations: HIPAA, PIPEDA, and GDPR
- Ensured that codebase, systems, documentation, and processes comply with ISO 27001
- LEad with the SCRUM process, facilitating daily stand-ups, sprint planning, retrospective meetings, and ensuring that the team is adhering to agile principles and best practices
- Conducted code reviews, ensuring that code quality standards were met and that the codebase is maintainable and scalable

- Managed priorities, ensuring that the team is working on the most critical and impactful features for the business
- Completed federal government R&D grant documents, securing funding for the project and ensuring that all documentation requirements were met
- Developed efficient (<15 mins runtime) CI/CD pipelines for development and production deep learning pipelines
- Ensured trained models usage of Apple Neural Engine (ANE) for real-time inference on-device



Data Science Consultant

Master Data Analysis

Sep 2020 - Mar 2023 (2 years 7 months)

- Developed and facilitated a comprehensive data science training program for a team of 9 data analysts, covering topics ranging from data extraction to model deployment, resulting in a significant increase in team members' technical proficiency and ability to deliver results
- Coached and mentored data science projects, providing guidance and expert advice to ensure that business results were achieved
- Developed all program materials, including code, presentations, assignments, and projects, resulting in a cohesive and effective training program that met the needs of the team and the organization
- Setup and managed Azure infrastructure for facilitation sessions and projects execution



Deep Learning Engineer

Innodem Neurosciences

Feb 2019 - Jan 2021 (2 years)

- Trained and improved neural network (CNN) models for eye-tracking applications (Tensorflow, Scikit-Learn, and XGBoost)
- Created and operationalized the end-to-end deep learning pipeline that covers data engineering and processing, model building, model training and evaluation, and model deployment
- Developed and implemented model deployment capabilities (MLOps) for both on-server (ONNX, TFLite) and on-the-edge (CoreML, iOS) scenarios, also reducing model deployment cycle time from hours to minutes
- Reduced deployed models' latency through quantization and pruning, achieving real-time (60 FPS) eye gaze predictions on-device without losing precision
- Designed and implemented the core neural network (ResNet) architecture and training pipeline for diagnostics applications
- Designed and implemented neural network experiments tracking (Weights & Biases) to make informed decisions based on data
- Developed on-device model fine-tuning (transfer learning under 5 seconds) code to enable personalized predictions for individual users
- Reduced model training pipeline duration (~13%) using mixed precision and multi-GPU (distributed) training
- Developed image processing algorithms to improve models training and inference metrics



Sr. Business Systems Analyst (Operational Technology)

CN

Mar 2018 - Dec 2018 (10 months)

- Elicited, clarified, documented, analyzed, prioritized, and decomposed over 118 L1 business requirements (process and tools) from internal and external partners, within an agile and continuous delivery environment
- Acted as liaison between business and implementation teams
- Lead portion of the strategic roadmap defined by the Product Manager
- Performed process analyses and improvements backlog assessments (DMAIC, PMCS)
- Created and validated current and future-state processes and tools with business partners
- Developed a sentence similarity model (NLP) to decrease support requirements management, decreasing elicited requirements redundancy by 8%



Machine Learning Engineer

Crowdbotics

Nov 2017 - Apr 2018 (6 months)

- Developed a recommendation algorithm and model for an audio streaming service for wellness content, leveraging machine learning techniques to provide personalized recommendations to users
- Designed and implemented the algorithm using state-of-the-art machine learning libraries and frameworks, resulting in a high-performance and accurate model



Continuous Improvement Specialist (ITPLM)

BOMBARDIER

Aug 2014 - Mar 2018 (3 years 8 months)

- Coached and lead continuous improvement projects and workshops (VSM, visual management systems, kaizen, decision-based-schedules, knowledge diagrams, etc.):
- Supported multiple 'Hansei' for various software development projects
- Visualized and eliminated waste through Value Stream Mapping (VSM) projects
- Identified root causes by performing formal technical problem-solving and root-cause analysis
- Developed a machine learning model (classification) for critical load case selection in conceptual design, resulting in a deeper understanding of the features that actually impacted the predictions



Data Scientist

baseline.io

Nov 2017 - Dec 2017 (2 months)

- Developed a dashboard application to track, visualize, and analyze mobile telemetry data, providing insights into user behavior and system performance
- Designed and implemented the application using modern data visualization libraries, resulting in a highly interactive and user-friendly interface



Data Scientist

SciBase.co

Sep 2017 - Dec 2017 (4 months)

- Designed and implemented an initial authors disambiguation algorithm and model using Natural Language Processing (NLP) techniques to accurately identify and disambiguate authors with similar or identical names
- Conducted extensive research and analysis to identify the most appropriate NLP techniques and algorithms to use in the development of the disambiguation model



Lean Six Sigma Black Belt Consultant

QualityGB

Jul 2012 - Dec 2012 (6 months)

- Coached and mentored 16 Lean Six Sigma Black Belt projects in 2 nationwide industrial parks, which resulted in \$1M+ in operational savings
- Worked directly with clients to ensure expectations and objectives were met
- Developed and facilitated a comprehensive lean six sigma black belt training program
- Developed all program materials, including code, presentations, assignments, and projects, resulting in a cohesive and effective training program that met the needs of the team and the organization



Technical Assurance & Validation Engineer II

Johnson & Johnson

Nov 2010 - Jul 2012 (1 year 9 months)

- Conducted pilot plant experimental research for product/process development and improvement
- Lead major consumer complaint resolution for injection molded component redesign
- Lead major product packaging change research and development for forming, dimensions tolerances, process and equipment
- Established the site's Validation Master Plan (VMP)
- Designed and conducted 60+ design of experiments (DOE) to define / improve processes parameters, controls, and limits
- Planned and executed 80+ validations and revalidations focused on process improvement and corrective actions / preventive actions (CAPAs)
- Defined, developed, and implemented new injection processing line specifications, process parameters, and materials



Manufacturing Engineer

Jul 2009 - Nov 2010 (1 year 5 months)

- Produced documentation and standards for assembly and batch processes based on product drawings and specifications
- Successful manufacturing system transfer for steerable guide wires, ECG leads, and cryogenic devices (BOMs, process flows, layout, manpower, equipment, testing, capacity analysis, etc.)
- Planned and deployed lean manufacturing system in assembly, warehouse, and packaging areas
- Developed testing methods, procedures, and KPIs for incoming, assembly, batch, and packaging areas



Process Engineering Supervisor

Andin International

Jun 2008 - Apr 2009 (11 months)

- Lead project for diamonds usage (11%), improving precious stones life cycle and inventory management
- Modularized the workshop (batch-and-queue) based production system



Intermodal and Equipment Control Coordinator

A.P. Moller - Maersk

Jul 2007 - Jun 2008 (1 year)

- LEad the SAP deployment and implementation in the Caribbean cluster (Central America – Caribbean)

- Implemented a new inland transportation management system

Education



Udacity

Data Engineering Nanodegree, Data Engineering

Jan 2020 - Mar 2020



Udacity

Machine Learning Engineer Nanodegree, Machine Learning Engineering

Sep 2019 - Dec 2019



University of Ottawa

Master of Engineering (MEng), Engineering Management

2013 - 2014



Instituto Tecnológico de Santo Domingo

Bachelor of Engineering - BE, Industrial Engineering

2004 - 2008

Licenses & Certifications



Azure Data Scientist Associate - Microsoft

Issued Nov 2020 - Expires Nov 2022

H573-8605



Microsoft Professional Program in Artificial Intelligence - Microsoft

087e74e3-4731-49db-9eef-583aa44de2bf



Data Science Specialization - The Johns Hopkins University

SHWB7W8XWLSR



Applied Data Science with Python Specialization - University of Michigan

L6KWTP3MLEFB



Deep Learning Specialization - DeepLearning.AI

4NTLVXWK6A23



Natural Language Processing Specialization - DeepLearning.AI

AQVW73AZWRMT



Machine Learning Engineering for Production (MLOps) Specialization -

DeepLearning.AI

W5BXLJMFCA7V



Generative Adversarial Networks (GANs) Specialization - DeepLearning.AI

JJECMKXH7A9X



Certified Lean Six Sigma Black Belt (CLSSBB) - Six Sigma Development Group,
LLC