

Jay Yanamandala
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Deep Learning, ML Engineer
[Kaggle](#) [LinkedIn](#) [GitHub](#) [RPods](#)
Portfolio: <https://jayc279.github.io>

I have hands-on experience in fine tuning hyper parameters for Deep Neural Networks using Keras_Tuner, Bayesian Optimization, Random Search techniques. I received multiple "Bronze" medals from 'Kaggle' community for writing and sharing many hyperparameter search techniques on – Deep Learning Neural Networks.

My work has included applying these models to real-world datasets from various industries including medical diagnosis, and consumer credit risk management.

Passion to research various techniques and innovations to improve prediction and accuracy of models is reflected in my work. In addition, committed to tasks at hand to deliver on time, and learn from team members to improve throughput, and aid in deliverables. Prior to AI career, spent some years working in EDA (Electronic Design Automation) companies.

Deep Learning

- All Jupyter Notebooks I wrote on hyperparameters search techniques are available to Kaggle community. Won multiple 'bronze' medals for these notebooks:
 - [Neural Networks Deep Learning Hyperparameters search](#)
 - [Keras-Tuner-hyperparameters-search-for-Obesity-Risk-Prediction](#)
- Tuned and implemented Fully connected Neural Nets to [Predict Cardiovascular disease risk](#) in individuals with high obesity - based on several factors. For Exploratory Data Analysis used an out-of-box approach to see if assigning values to categorical columns improve Network accuracy.
- Designed and implemented a 34-layer Residual Deep Neural Network similar to ResNet50 on 3D multi-resolution imaging datasets of kidneys for [SenNet + HOA – Hacking the Human Vasculature in 3D](#) competition on Kaggle to predict the effect of vasculature 'flow of blood, oxygen' in the human body through the vessel network. RLE format (Run Length Encoded) to predict effect of vasculature on different cells in the human body.
- Designed a fully connected Deep Neural Network to predict whether a customer continues with their account or closes them for [Binary Classification with a Bank Churn Dataset](#) a Kaggle competition.
- Implemented the dataset on various ML technologies to predict the outcomes of patients with cirrhosis for [Multi-Class Prediction of Cirrhosis Outcomes](#)
- Collaborated with Kaggle users to optimize a deep learning algorithm to improve models predictions on Deep Convolutional Neural Networks.
- Worked on image augmentation techniques to train GANs and on Reinforcement learning

ML Models & Packages

- YOLO, Semantic Segmentation, Image Classification, Face Recognition, Image Vision, Neural Transfer
- NLP, LSTMs, Transformers, Attention Mechanism, Inception Models
- Scikit-Learn, XGBoost, NumPy, Pandas

Technical Skills

- Proficiency in designing, coding, analyzing and fine-tuning hyperparameters for Deep Neural Networks using Keras TensorFlow/PyTorch, and SciKit-Learn packages.
- Good knowledge and strong understanding of machine language algorithms, and implementation techniques. Ability to optimize deep learning algorithms for improved performance
- Knowledge of cloud platforms: AWS, Google Cloud
- Familiarity of data visualization tools
- Languages/Interpreters: Python, R, PHP, PERL, Tcl & Shell, Working knowledge of C++, C
- Offshore hiring, training, & managing. Quality & Software Release Management Processes

Certificates [Deep Learning \(Deeplearnig.ai\)](#) (2023)

[Machine Learning \(Stanford\)](#) (2023)

Education University of Wyoming M.S. Electrical & Electronics, M.S. Finance

During the app market swing, designed an app, Hallowgram® features rich in creating personalized greetings and photographs that are saved in AWS RDB and released it on iOS. I also funded an on-line gaming company which released dozen games on iOS, Android, and Facebook.

EDA Industry

- Responsible for software engineering, quality assurance, and production support.
- Recognized for consistent success in developing systems, plans, and procedures to improve processes, and enhance performance
- In charge of planning for releases and quality for all products and engines in P&R
- Hiring, training and managing a team of 20+ engineers with diverse experience across geographies with focus on innovation, quality and deliverables
- Deep-dive problem solving, detailed analysis and debugging of quality of results for complete design implementation flow. High proficiency in prototyping solutions by scripting
- Coordination of various engineering r&d to provide solutions and fixes to field teams. Collaborating with architects, and engineers to ensure the QoR of release is same or better than previously released version.
- Hands-on expertise in every phase of Physical design from RTL -> GDS
- Partner with R&D for Flow and methodology development to deliver superior out of the box QoR from the tool with ease of use.
- Experience in coordinating and managing remote teams across multiple locations, e.g. teams of **20-25 people**. Excellent understanding of QA processes, methodology and toolsets. Experience in defining and setting up testing methodology for integration, functional and regression testing.
- Established and managed an offshore development and testing team which provided services to multiple engineering organizations in the company.
- Designed and set up application monitoring systems to proactively alert proper staff of production problems.
- Managed a comprehensive integrated change control process to limit code changes to released versions.
- Created advanced web interface using CGI-PERL, PHP & MySQL to compare Quality of Results between various builds. Extended existing test infrastructure to be 90% automated.
- FCS of Nitro/Olympus releases on time and as planned – one every 2 months.
- Designed and wrote test infrastructure & cgi-perl scripts for deployment at customer sites to test pre-release software

Synopsys

Solutions Staff

Oct 2018 – Nov 2023

- 6-months as a Data Scientist in Design Dash analytics tool. Created custom workflow in Python
- Data Scientist in Design Dash analytics tool. Created and integrated custom workflows in Python.
- As part of professional development completed certification courses in Deep Learning Neural Networks (from DeepLearning.ai), Machine Learning (from Stanford and Univ of Washington) and Data Sciences. (from John Hopkins University). Experience working with modern Deep Learning software architectures and frameworks. Use Google Colab and Kaggle. Complete with community on Kaggle platform.
- Worked on various Convolutional Neural Net architectures (building and transfer learning), Sequence models (NLP, Transformers, etc.), Reinforcement learning, Generative Adversarial Networks, Computer Vision and Object detection cases.
- Excellent time-management skills, and multiple initiatives prioritization for individuals and teams.

Mentor Graphics A Siemens Business

Architect

Nov 2008 – Oct 2018.

- Joined P&R Sierra a startup after Mentor Graphics acquisition. Hired, coached and managed a team of 20+ engineers across geographies with focus on innovation, quality, and deliverables.

- Full stack web application development for monitoring and signoff of releases using PERL, CGI, PHP & MySQL to compare Quality of Results between various builds. Using raw data from test runs, created tables to store processed data, and presented using web interface. Implemented similar structure at customer sites to qualify pre-releases software.
- Established proof of concept use model in Polarion ALM – SAFe 4.3.0, for Business Unit. Created widgets using velocity scripting language, created a release with work-items, tracked deliverables using time-spent and story points, generated reports and Teams pages.
- Hired, coached and managed a team of 20+ engineers with diverse experience across geographies with focus on innovation, quality, and deliverables.
- Summary: Joined as Product Validation Manager and promoted to Architect Product Validation based on strong team leadership performances and for consistent success in developing systems, plans, and procedures to streamline operations, improve processes, and enhance product quality & performance. Manage a team of 20+ engineers with diverse experience across geographies (overseas and local) with focus on innovation, quality and deliverables. Shipped multiple releases for all products and engines in P&R. FCS of P&R releases on time and as planned – once every 2 months.
- Responsible for software engineering, quality assurance, and production support.
- Recognized for consistent success in developing systems, plans, and procedures to improve processes, and enhance performance
- In charge of planning for releases and quality for all products and engines in P&R
- Hiring, training and managing a team of 20+ engineers with diverse experience across geographies with focus on innovation, quality and deliverables
- Deep-dive problem solving, detailed analysis and debugging of quality of results for complete design implementation flow. High proficiency in prototyping solutions by scripting
- Coordination of various engineering r&d to provide solutions and fixes to field teams. Collaborating with architects, and engineers to ensure the QoR of release is same or better than previously released version.
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- Established and managed an offshore development and testing team which provided services to multiple engineering organizations in the company.
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Blaze DFM

Operations Lead

Feb 2006 – Nov 2008

- A startup (early hire). Designed a QoR system, established test infra, quality processes & automation.
- Designed a QoR system in CGI-PERL, and web interfaces to setup standards and metrics to qualify multiple major and hotfix releases.
- Established multiple quality improvement processes. Automated verification and consistency checks, 300+ QOR tests and 1000+ unit tests, in regression, and test infrastructure.
- Developed test plans for new functionality and created over 300+ QOR tests and 1000+ unit tests.
- Designed a QoR system to execute, and host results on web. Architecture used CGI-PERL, Apache & Tcl interfaces, The system was designed to show trends and histories of results for various releases and designs. This helped setup standards and metrics to qualify multiple major and hotfix releases.

- Contributed to & supported numerous benchmarks at 65nm and 90nm that showed leakage savings to Customers on tape-outs and taped out designs.
- Integrated Aprio's test infrastructure into Blaze, added to standard QA nightly suites.
- Created Perl/Tcl scripts for automated verification and consistence checks in regression
- Identified weak areas and developed release gating plans to strengthen test suite
- Compiled, wrote major portion of first User Manual for BlazeMO software
- Responsible for release and quality of Blaze product. Developed Demos for DAC and Training material for Customers.
- Worked on Synopsys PrimeTime in Blaze MultiMode Repair runs.

OKI Semiconductor

Staff CAD Engineer

Nov 2003 – Feb 2006

- Conducted feasibility studies on EDA tools, and identified areas of weakness and strength between tools and updated OKI flows, and presented results to Staff. Contributed to various tape-outs in optimization, x-talk & timing closure space
- Benchmarked Apache RedHawk and Cadence VoltageStorm DG. Identified areas of weakness and strength between the two tools. Presented results to Executive Staff
- Conducted feasibility studies on ReShape PDBuilder and identified areas where it can add value to Pegasus flow
- Supported GGT GoPower – power router. New release and bug verification before insertion into Pegasus flow
- Worked on Synopsys PrimeTime – Static Timing Analysis tool. Used PT to analyze and verify SDC constraints and timing reports written out by First Encounter for SOCE flow
- Created and presented basic STA training for AEs and CAD engineers
- Contributed to various tape-outs in optimization, x-talk & timing closure space

Cadence Design Systems

Product Engineer

April 1996 – July 2003

- Worked in Ambit-DA after Cadence acquisition. Created flow level tests in Static Timing features, Synthesis, P&R. Partnered with AEs, Sales, R&D, and PM to improve product quality & adoptability
- Created flow level tests in Static Timing features, Synthesis, Place and Route. Partnered with AEs, Sales, R&D, and Program Management, to train new hires in Static Timing Analysis.
- Partnered with AEs, Sales, R&D, and Program Management to plan and develop Product Requirement specs. Created flow tests, and conducted training sessions for new Static Timing features and Synthesis, Place and Route flows for various releases - BGPKS, SOCE, RTLE, and CTE
- Worked on PCRs – Product Change Requests – filed by Customers, and AEs
- Worked on Prototyping, Partitioning and Budgeting flows using First Encounter and BGPKS
- Wrote examples and explained various STA commands as internal app-notes to be used by AEs during their STA analysis, and later to be documented in the STA user guide
- Wrote Tcl/Shell scripts to loosely integrate various Cadence tools in the BGPKS/SOCE flow
- Excellent understanding of various library – Liberty, TLF, etc. – and parasitics format
- Product and Customer support engineer for BuildGates STA, and Distributed Synthesis product
- Created a basic STA training for AEs who are new to Timing
- Partnered with PE to integrate flow tests into regression
- Develop nearly 1500 tests for new Timing features in Godzilla release
- Supported Distributed part of BuildGates and PKS regression runs
- testing, and fixing
- Working closely with PM on the new release model for Ambit to meet all release mile-stones within the deadlines
- Provided technical support to cross-functional PV teams during installation and setup of BG/PKS in their design flows

- Conducted training sessions for PV on Cadence installation process
- Project lead for the training, scheduling, testing and sign-off of Assura
- Conducted XRunner training class. Automated UI test cases using XRunner
- Lead a cross-functional team that documented Openbook testing efforts of Pubs & PV
- Participated in V&V cross-functional teams that includes reviewing plans and initiatives
- Evaluated JavaStar, a new automation tool from SunTest to develop tests GUI
- Special achievement award Nov 96, and Aug 96