Visit **pndang.com** for 7 references/recommendations, detailed work experiences, projects, professional activities, hobbies, etc.

PHU N DANG | dangnphu31@gmail.com

+1 (669) 274-8956 | pndang.com *(portfolio)* + **/r** for real estate & all in 1 resume **| linkedin.com/in/pndang | github.com/pndang**

PROFILE - An eager, adaptive, and thoughtful young professional with a multidisciplinary and entrepreneurial record of technical and leadership endeavors, fostering a career synergizing technology with the built world. Known for "skepticism" when handling data, ensuring careful execution and reliable results. Educated in commercial real estate. Possesses extensive practice in data-driven tools, notably statistics, LLMs, NLP, machine/deep learning, business intelligence, digital twins, IoT, data analysis/visualization/ethics.

EDUCATION

UNIVERSITY OF CALIFORNIA SAN DIEGO | GPA: 3.745 **Exp. Graduation Date: June 2025**
Data Science, B.S. | Real Estate & Development, B.S. | Urban Studies & Planning, Minor

SKILLS & ACTIVITIES

- **Tools and Frameworks**: **Adept**: Python (Pandas, NumPy, Statsmodels, Scikit-learn, RegEx, Matplotlib, Seaborn, Dash/Plotly), SQL, Tableau, GitHub, MS Excel/Word/PowerPoint, CoStar, SketchUp, Unreal Engine 5, Cesium, Vietnamese Bilingual Fluency; **With project/coursework experience**: OOP, R, Java, C/C++, PyTorch, YOLO, Dask, Spark, AWS, Google Maps API, OpenAI API, Flask, Jekyll, HTML + CSS, MATLAB, D3.js + Svelte, NVIDIA DeepStream, Oscilloscope, Embedded Systems
- **Extracurricular Activities**: **Developing Leader** at NAIOP San Diego, **Etkin Scholar** & **Shadow Broker** at Urban Land Institute (hands-on with real-world real estate deals), **Player** and prev. **Officer** on UC San Diego Men's Club Water Polo Team ***(2022 National Champion)***, prev. **Housing Solutions Consultant** & **Designer in Residence** at the World Design Organization
- **Certifications**: LLMOps – Building Real-World Apps with LLMs (pursuing – by Comet), Business Metrics for Data-Driven Companies (DukeUni), Data Analysis with Python (IBM), MS Office Specialist (Excel), LEED® Green Associate™ (USGBC)
- **Honors/Awards**: Emerging Innovator, 2x UC San Diego PACE Scholarships, ERC Honors Program, Provost Honors, 36th URC

EXPERIENCE

QUALCOMM INSTITUTE | Telecom and IT | La Jolla, CA **Jan 2024 – Present**
Applied AI & Junior Software Developer *(Cognitive City Twins)*

- Implemented scalable data integration workflows using blueprints and structs in Unreal Engine 5
- Developed data viz apps using UE5 objects/instanced static meshes with dynamic spawning, scaling, georeferencing
- Implemented Cesium cartographic polygons, raster overlays, and color blending across material layers for tile coloring
- Integrated Google Maps API for a realistic global world as the base for visualization needs in real estate and urban planning
- Utilized Datasmith Exporter plugin to integrate Cesium in Unreal Engine with SketchUp Pro for property modeling
- Built interactive, 3D widgets to display property/urban data, emphasizing user experience and future VR integration
- Developed a framework for building digital twins of buildings in the real world for future placement in the city twins
- Aggregated a large database of the San Diego-Carlsbad region data for future visualization in the cognitive city twins

BIOKIND ANALYTICS | Healthcare Data Non-profit | La Jolla, CA **Sep 2022 – Present**
President & Lead Data Scientist

- Manage organizational leadership, budget, marketing, outreach, public relations, and recruitment activities
- Worked with local healthcare non-profits in San Diego on potential avenues for data science to improve operations; targeting ways to help clients improve efficiency, impact, outreach, client satisfaction, ROI, data systems/use case designs
- Oversee and participate in student data science projects to ensure quality, timely delivery, and meeting clients' expectations while upkeeping self; facilitating opportunities for students to apply academic training in impactful, real-world scenarios
- Organize correspondence between members, university faculty, department advisors, and non-profit representatives
- Analyzed large, archived and operational datasets to identify key metrics and actionable insights, leading to improved client understanding of programs, initiatives, grants performance; furthered clients' mission as data-driven organizations
- Over $140 million in combined financial analyses performed, ranging from donations to research grants and charity events
- Derived ground-truth insights to clients' operation with statistical inference, reflected clients' past operation, checked recent business decisions, and inform future decisions. Performed feature selection/engineering for informative attributes
- Specialize in geo-/demographic, financial, operational & business strategies analyses, dashboarding, turning data to action

UC SAN DIEGO Urban Studies & Planning | Academic Department | La Jolla, CA **Sep 2023 – Jun 2024**
Affordable Housing Research Assistant & Data Science Fellow *(Mentor – Dr. Feiyang Sun)*

- Reported affordable housing policy incentives and cost factors, emphasizing public improvements and tax incentives
- Networked with industry professionals to study affordable housing market feasibility, focused on LIHTC and ADUs
- Received sponsorship to network with SDGBC to study green building techniques and integration with affordable housing
- Programmed a bespoke algorithm to parse property data from CoStar into a tabular format for non-commercial purposes
- Applied statistics and machine learning on over 5000 LIHTC projects to derive factors influencing fund allocation
- Utilized analysis methods for social science: feature engineering, clustering, attribute stratification, marginal error analysis

NIEMA LAB at UC San Diego | Computer Science & Engineering | La Jolla, CA **Sep 2022 – Oct 2023**
Data Science Trainee & Researcher *(Mentor – Dr. Niema Moshiri)*

- Developed an interactive application to visualize Covid-19 time-series data with variant segmentation
- Programmed a bespoke data-smoothing algorithm that selectively reads data upon user requests to optimize runtime
- Reduced initial runtime by 97% (5s to sub-0.1s) with caching/memoization and efficient data structure implementation
- Benchmarked data compression techniques to optimize serialization efficiency and expedite loading speed
- Wrote 7 research notebooks to uncover patterns in 30+ large-scale datasets involving 3000+ cancer patients
- Exceeded 87% accuracy across diverse evaluation metrics, in accurately predicting breast cancer recurrence status
- Analyzed disparities and data collection gaps to ensure ethical and responsible data science practices
- Nominated & gave a conference presentation, special commendation by the Semiconductor Research Corporation

GOING SOLO | Business Intelligence & IT Consulting | Johannesburg, South Africa **Jun 2022 – Aug 2022**
Lead Data Analyst Intern

- Implemented a character-based word embeddings model to improve words/phrases cognition for text classification
- Developed an automated Bayesian text classifier to streamline data labeling processes
- Analyzed an S&P 500 company's stock/financials and developed an interactive dashboard in Tableau
- Enhanced and maintained a PM dashboard, enabling real-time progress tracking/reporting to supervisors
- Managed projects and led team communications across 7+ time zones for effective collaboration and timely delivery

➔ Exceeded internship expectations by proactively implementing an automated data labeling tool with machine learning, effectively saving time and resources, setting new standards for efficiency and problem-solving at the company.

DELOITTE Data Science Mentorship Program | Business Consulting | San Diego, CA **Feb 2022 – May 2022**
Data Science Mentee

- Utilized ARIMA models to generate employment metric forecasts and predict market behaviors due to Covid-19
- Conducted in-depth analysis to extract actionable insights using multiple linear regression, EDA, and visualization
- Collaborated closely with a mentor from Deloitte, receiving personalized guidance and support on a weekly basis
- Presented findings to an audience of Deloitte practitioners and advisors from the Halıcıoğlu Data Science Institute

➔ Took on a lead role when the team needed leadership, taking charge of task assignments, scheduling meetings, and cultivating a cohesive data story; created a positive, motivated team environment, on-time delivery, & quality assurance.

PROJECTS

Cognitive City Twins Portfolio (pndang.com/projects) **| Team & Personal Project**
Built digital twins for UCSD, Chula Vista, and Hollywood's Vinyl District with Cesium for Unreal. Focused on commercial real estate, property modeling, & urban design applications. Demonstrated how IoT technology and AI can transform the built world.

D3 San Diego Multifamily Visualizer | Team Project
A D3.js web app to answer the question "Which San Diego submarket for your next multifamily investment?", data queried from CoStar is visualized on a choropleth map of San Diego, highlighting multifamily vacancy rates, built/renovation year, parking/unit.

Who's Dominating the Game | Team Project
A D3.js + Svelte web app showing a temporal analysis of console game genres and publishers' prevalence by sales and crit scores.

Statistical Inference for U.S. Presidential Elections | Team Project
A detailed analysis of twelve elections for the U.S. presidency between 1976 and 2020 for a deeper understanding of their nature. Analyses performed include exploratory, goodness of fit (LRTs), similarity/dissimilarity analysis of distributions, predictive (ML).

OPUBOD - Occupancy Prediction Using Building Operation Data | Personal Project
A time-series machine learning project to discover relevant building operation metrics to predicting occupancy. Examined models include linear regression, auto-regression, and recurrent neural nets, plus statistical analyses for feature selection.

Game Recommender | Personal Project
Performed (1) play prediction using collaborative filtering and (2) hours played prediction using latent-factor models with coordinate descent and gradient descent. All models implemented from scratch with analogous results to the Surprise library.

Solar-Powered Smart Lighting for Sustainable Living | Team Project
Built a solar-powered IoT device capable of collecting live sensor data, adjusting lighting, sending data to a MySQL database using MCU Wi-Fi with synchronous communication. Developed a data processing script to query, transform, and visualize data.

Exploratory and Predictive Analytics for Precision Medicine | Team Project
A data project for Personalized & Secure Drug Discovery by the Semiconductor Research Corp. Conducted intensive exploratory and predictive analyses to predict breast cancer recurrence using biomarkers, medical, and lifestyle data from over 3,000 patients.

Illuminating Cognizance | Personal Project
A look into major power outages in the U.S. to assess statistical relationships, perform hypothesis testing, data missingness audits, and derive predictive power using ML and feature-engineering, built in pipelines with diverse accuracy metrics and evaluations.

World Happiness Report 2022 | Team Project
Analyzed global happiness using data from the 2022 World Happiness Report to study factors influencing well-being worldwide.