

Bhuvana Chandar (Bhuvan) Veeravalli

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Objective

Analytical innovator passionate about designing intelligent systems that merge data-driven modeling, predictive analytics, and statistical learning. Experienced in optimizing temporal architectures and deep neural pipelines for real-world forecasting, anomaly detection, and automation challenges. Excels at transforming raw information into high-impact, scalable insights that advance decision-making in complex systems.

Education

- University of Alberta** Expected 2027
Bachelor of Science in Computer Science (GPA: 3.8/4.0) Edmonton, AB

Experience

- Undergraduate Research Assistant — Renewable Thermal Energy Lab** Jan 2025 – Present
University of Alberta Edmonton, AB
 - Achieved $R^2 = 0.98$ and $MAE < 0.5^\circ\text{C}$ by engineering a multi-head attention LSTM predicting 10-point thermal storage temperature profiles from dynamic sensor data.
 - Increased model validation speed by 40% by automating data ingestion, residual analysis, and visualization across 150+ experimental runs.
 - Improved diagnostic precision through adaptive error-tracking pipelines that identified optimal test configurations and performance thresholds.
- Undergraduate Teaching Assistant — STAT 252: Applied Statistics II** Sep 2025 – Present
University of Alberta Edmonton, AB
 - Corrected and assessed over 250+ student submissions, applying consistent evaluation metrics across statistical modeling and data analytics coursework.
 - Enhanced student understanding of regression, hypothesis testing, and data-driven decision-making through one-on-one academic support.
 - Managed grading and tutorial coordination efficiently, demonstrating exceptional time management and organizational skills under tight academic timelines.

Projects

- FlightPredict — Flight Delay Prediction System** 2025 – Present
Python, PyTorch (MLP), FastAPI, Java Spring Boot, Docker, AWS
 - Delivered >85% accurate flight delay and cancellation predictions using a multi-target PyTorch neural network (MLP) trained on integrated BTS and weather datasets.
 - Deployed a dual-service architecture (FastAPI + Spring Boot) for real-time inference, enabling sub-500ms latency and scalable API integration for airlines and traveler systems.
- Android Mood Tracking App** Jan – Apr 2025
Android SDK, Firebase, Java
 - Built an offline-first Android app for mood tracking with geolocation and media integration to improve emotional awareness and reflection.
 - Implemented Firebase authentication and real-time synchronization, enabling secure multi-device access and data persistence.
- Credit Card Fraud Detection** Nov 2024 – Jan 2025
Python, scikit-learn, NumPy
 - Improved fraud detection precision by 15% through feature selection and hyperparameter tuning across multiple ML algorithms.
 - Designed and evaluated binary classifiers optimizing both recall and runtime for high-volume financial datasets.
- Real-Time Lane Line Detection** Sep – Dec 2024
Python, OpenCV
 - Designed a video-based lane detection system using edge detection and contour mapping to visualize driving lanes with frame-synchronized overlays.
 - Enhanced image processing efficiency by 30% through optimized filtering and contour extraction pipelines.

Skills

- **Core Areas:** Predictive Modeling, Deep Learning, Time-Series Forecasting, Data Analytics, Computer Vision, Optimization
- **Frameworks/Tools:** PyTorch, scikit-learn, OpenCV, FastAPI, Spring Boot, Firebase, Docker, Git
- **Concepts:** Model Evaluation, Residual Analysis, Multi-Target Learning, Statistical Inference, Feature Engineering
- **Soft Skills:** Analytical Thinking, Collaboration, Technical Communication, Agile (Scrum)

Certifications

- **Generative AI for Software Development** — DeepLearning.AI *Oct 2025*
- **Google Cloud Data Analytics Certificate** — Google (Expires Sep 2028) *Sep 2025*
- **Introduction to Data Analytics** — IBM *Jul 2025*

Awards & Scholarships

- **NSERC Undergraduate Student Research Award** *Apr 2025*
- **University of Alberta Undergraduate Scholarship (International)** *Sep 2024*
- **Dean’s Honor Roll** *Jun 2024, Jun 2025*
- **University of Alberta Gold Standard Scholarship** *Aug 2023*
- **University of Alberta International Admission Scholarship** *Aug 2023*
- **University of Alberta Regional Excellence Scholarship** *Aug 2023*

Volunteer Experience

- **Edmonton’s Food Bank** *Sep 2024 - Nov 2024*
Volunteer
– Assisted in sorting and organizing food donations, assembling hampers, and supporting distribution efforts.
- **The Mustard Seed** *Sep 2024 - Nov 2024*
Volunteer
– Helped organize donations and engaged with community members experiencing poverty and homelessness.
- **Hope Mission** *Sep 2024 - Nov 2024*
Volunteer
– Assisted with meal preparation and service, creating a welcoming environment for individuals facing poverty and addiction.