

# NEELOFAR TAMBOLI

tamboli.neelofar@gmail.com (609) 921-4651 linkedin.com/in/neelofar-tamboli

## Education

**Tufts University**, School of Engineering Medford, MA  
B.S. in Computer Science, completed pre-med coursework 2021–2025  
**GPA: 3.49 overall — Science GPA (BCP): 3.73**  
Honors: Dean's List (8 semesters); Graduated Cum Laude  
Selected coursework: Algorithms; Data Structures; Computation Theory; Machine Learning & Data Mining; Big Data; Data Privacy & Security; Cybersecurity; Probability & Statistics; Linear Algebra; Multivariable Calculus; Differential Equations; Discrete Mathematics; Medical Technology Development; Entrepreneurship for CS;  
**Premed:** Biology I & II; General Chemistry I & II; Organic Chemistry; Genetics; Physics I & II.

## Research Experience

**Machine Learning Researcher – IC Laser Eye Care** Hamilton, NJ  
*Research Intern* May–Aug 2023

- Led development of a DenseNet-121 model to detect pediatric strabismus from de-identified autorefraction and imaging data (AUC 0.94 with cross-validation).
- Designed data preprocessing, normalization, and class-balancing strategies for imbalanced clinical datasets.
- Implemented a HIPAA-compliant ETL workflow and documentation adopted by the clinical team.
- Work resulted in peer-reviewed abstract and poster at AAPOS 2024.

**Integrative Medical Biology, Umeå University** Sweden  
*Research Intern* (remote/on-site as applicable)

- Performed immunohistochemistry and fluorescence microscopy on human extraocular muscle tissue.
- Conducted cryostat sectioning, multistep staining, antibody labeling, and imaging for desmin, synemin, and tenascin.
- Collaborated with investigators to optimize staining protocols and evaluate imaging quality, connecting tissue-level findings to ocular motility disorders.

**SoundSense LLC (Senior Capstone)** Princeton, NJ  
*Research Collaborator* Sep 2024–May 2025

- Built analytics pipeline for acoustic noise classification and exposure mapping for community and health applications.
- Developed dashboard to visualize temporal and spatial noise patterns for community monitoring.
- Co-authored a paper associated with a patented health-condition detection device using acoustic signatures.

**Novaluna LLC** Princeton, NJ  
*AI Research & Data Analytics Intern* Mar 2023 – May 2025

- Conducted applied research on financial document understanding using LLMs and agentic workflows, contributing to model architecture, evaluation, and prompt optimization.
- Automated month-end reconciliation, reducing processing time from hours to minutes and identifying \$75K/year in fee discrepancies.
- Developed earnings-call text analytics models that explained 18% of next-day FDX return variance, informing portfolio strategy.
- Communicated research findings to stakeholders through dashboards, demos, and written reports.

## Technical Projects

**SOPscribe – LLM-Based GMP Documentation Tool** 2024–present

- Designing LLM-based system for drafting & validating GMP-compliant documentation for cell and gene therapy manufacturing.
- Implementing prompt architectures, validation logic, and audit trails aligned with FDA 21 CFR Part 11.

**Sentiment Analysis Using ML (CS135)**

- Implemented sentiment classifiers using logistic regression with Bag-of-Words (AUROC 0.88) and BERT embeddings with MLP (AUROC 0.97).
- Performed hyperparameter tuning, cross-validation, and error analysis on held-out data.

**Recipe Search Web Portal (CS20)**

- Built full-stack web app recommending recipes based on available ingredients with responsive UI and RESTful backend.

**Technical Skills**

---

**Programming & Tools:** Python, R, Java, C++, SQL, C; Pandas, NumPy, scikit-learn, PyTorch, TensorFlow, Statsmodels; Jupyter Notebook; Tableau; Excel; Hadoop; GCP; Xcode/Swift.

**Domains:** Clinical data workflows; healthcare data privacy (HIPAA); financial analytics; regulatory documentation.

**Leadership & Service**

---

Resident Assistant, Tufts Residential Life (3 years)	Aug 2023–May 2025
Vice President of Finance, Tufts Women’s Network	May 2024–May 2025
Class Senator, Tufts Community Union Senate	Sep 2022–May 2024
Treasurer, Tufts Community Union Judiciary	Jan 2023–Dec 2023

Awards: 1st Place – Social Impact Track, Tufts \$100K New Ventures (2025); Montle Prize for Entrepreneurial Achievement (\$10K grant, 2024); Best Technology Innovation Award, Princeton ISEC Conference (2020).