Amir Reza Farhang

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EDUCATION

Rutgers University - New Brunswick, NJ **September 2024 – Present**

Bachelor of Science in Computer Science and Statistics

- Relevant Coursework: Data Structures, Multivariable Calculus, Linear Algebra
- 2025-2026 Coursework: Computer Architecture, Discrete Structures, Mathematical Theory of Probability, Principles of Information and Data Management
- Certifications (In Progress):
  - IBM Data Science Professional Certificate — Completed 4 of 9 courses
  - DeepLearning.AI Machine Learning Specialization — Completed 1 of 3 courses

EXPERIENCE

Institute for Advanced Study **May 2025 – September 2025**

IT/Network Engineering Intern ias.edu Princeton, NJ

● Assisted with infrastructure upgrades by working hands-on in data centers, gaining experience with fiber optics, Ethernet cabling, and network hardware.

● Automated macOS device setup in Kandji using Bash and Python scripts, streamlining deployment and reducing manual configuration.

● Resolved network hardware issues by upgrading BIOS firmware, replacing UPS units, and wiping wireless access points, improving reliability and readiness for redeployment.

● Improved asset tracking by updating fiber plant documentation in QGIS and streamlining administrative work with Excel.

Rutgers University **September 2024 – Present (Fall/Spring semesters)**

Student Worker – The Atrium Role food.rutgers.edu New Brunswick, NJ

● Delivered fast and accurate transactions during peak campus hours, improving flow and reducing wait times.

● Resolved customer issues professionally, ensuring consistent service quality.

● Strengthened communication skills by providing friendly support, contributing to a positive campus experience.

PROJECTS (View on GitHub)

LensifiedSelfie (GitHub) — *Animated sunglasses overlay using computer vision and deployment pipeline*

- Achieved accurate eye detection by building a dlib/OpenCV pipeline, enabling sunglasses to align precisely with facial features.
- Created animation of sunglasses using Bézier curves, enabling natural drop effects with accurate scaling and rotation.
- Enabled flexible user interaction by developing both CLI and PySide6 GUI interfaces.

WORK IN PROGRESS (View on GitHub)

CensusFlow (GitHub) — *Modeling population movement in/out of New Jersey post-COVID using geospatial data*

- Will model county-level migration trends by collecting and cleaning COVID, census, and mobility datasets using pandas and geopandas.
- Will deliver clear insights through choropleth maps and time series using Plotly and Seaborn.
- Will enable data-driven policy analysis by visualizing net migration shifts across NJ regions.

CineMatch (GitHub) — *Personalized movie recommender using collaborative filtering and matrix factorization*

- Will build a hybrid recommendation engine by applying SVD and cosine similarity to the MovieLens dataset.
- Will improve top-N recommendation quality by tuning latent dimensions and regularization for RMSE and precision@k.
- Will address cold-start challenges by integrating a content-aware fallback system for unseen users and items.

SKILLS

- Languages: Python, Java, SQL, HTML, CSS, JavaScript
- Tools: Git, Docker, Jupyter, Kandji, Excel, QGIS
- Libraries/Frameworks: PyTorch, OpenCV, Dlib, GeoPandas, PySide6
- Operating Systems: Linux (Arch, Ubuntu, Red Hat), Windows, macOS