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Lukas Talaga

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Chicago, IL

Education

University of Colorado Boulder — Jan 2024 – May 2025
B.S. in Applied Computer Science | GPA: 4.0 — *Online*

University of Illinois Urbana-Champaign — Aug 2016 – May 2020
B.S. in Molecular & Cellular Biology | Chemistry Minor | GPA: 3.7 — *Urbana, IL*

- **Achievements**: High Distinction in Research, Cell & Developmental Biology Certificate, Senior Thesis

Projects

- **Deep Learning for Protein Secondary Structure Prediction**: Optimized RNN and CNN models on a curated dataset for sequence-based structure prediction by performing data preprocessing, feature encoding, and evaluation using classification metrics.
- **Unsupervised Learning for Forest Cover Classification**: Leveraged PCA and clustering (K-Means, Hierarchical) on the UCI Covertype dataset to identify and validate environmental patterns.
- **Supervised Learning for Video Game Match Outcomes**: Developed a pipeline with logistic regression, decision trees, and ensembles to predict League of Legends match outcomes from early-game data using hyperparameter tuning.
- **RSA Cryptosystem: Implementation and Security Analysis**: Implemented RSA encryption/decryption in Python with prime generation, modular inverse, and modular exponentiation; performed security analysis on cryptographic methods.
- **Life Metric Tracker: A Personalized Health Data System**: Created a health tracking app using linked list stacks and CSV storage, featuring data visualization, correlation analysis, and scalable architecture.

Work Experience

AbbVie — Nov 2020 – Mar 2023
Associate Scientist — *North Chicago, IL*

- Led high-throughput screening for diverse drug discovery projects, integrating automation and robotics to optimally screen millions of compounds.
- Provided critical molecular characterization data for chemists across multiple therapeutic areas.
- Conducted in-depth data analysis and visualization using GraphPad Prism, TIBCO Spotfire, and Excel; extracted insights from datasets with millions of entries to guide project decisions.
- Led initiatives in developing sensitive biochemical, biophysical, and cell-based assay conditions, utilizing systematic experimental design to improve throughput, efficiency, accuracy, and precision.
- Orchestrated project communications across multidisciplinary teams, aligning strategies and driving key milestones.

Research

Blanke Lab (Microbiology BSL-2) — Sep 2018 – May 2020
Undergraduate Research Assistant — *Urbana, IL*

- Conducted extensive research and developed novel assays to study *Acanthamoeba castellanii* and *Bacillus anthracis* interactions, enhancing insights into Anthrax disease origins.
- Devised and implemented research protocols to compare pathogen interactions across different biological systems, applying analytical skills to interpret complex biological data.
- Presented research findings weekly, utilizing data visualization techniques to convey complex information clearly to both scientific and non-scientific audiences.

Nutrition and Exercise Performance Research Group — Jan 2017 – Sep 2018
Undergraduate Research Assistant — *Urbana, IL*

- Analyzed the impact of diverse nutritional protocols on muscle protein synthesis using assays (Western Blot, ELISA) and quantitative analysis.
- Assisted in surgical procedures and conducted comprehensive chemical analyses including amino acid labeling on human tissues and blood.
- Developed and implemented structured exercise and nutrition protocols, ensuring participant safety and protocol adherence.

Skills

Languages: Python, SQL, C++, C, Java, Scala

Technologies: Git, Pandas, NumPy, Matplotlib, Jupyter Notebook, SciPy, scikit-learn, TensorFlow, MySQL Workbench, Tableau, PowerBI, GraphPad Prism, TIBCO Spotfire, Excel