Skye Lane Goetz
Biomedical Research Scientist (AI & Data)

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Work Experience

Institute for Systems Biology (ISB)   **Seattle, WA**
Research Associate (Data Science) [Hood Lab]   *NOV 2024 - PRESENT*
○ Placeholder

Haynes-Zigler Lab (CalPoly)   **San Luis Obispo, CA**
Student Researcher (Computational Subgroup)   *SEP 2024 - NOV 2024*
○ Placeholder

Institute for Systems Biology (ISB)   **Seattle, WA**
Data Science Intern [Hood Lab]   *AUG 2024 - SEP 2024*
○ Placeholder

Institute for Systems Biology (ISB)   **Seattle, WA**
Summer Intern/Trainee (NSF REU) [Hood-Price Lab]   *JUN 2024 - AUG 2024*
○ Placeholder

CalPoly Water-Energy Sustainability Training Team (WESTT)   **San Luis Obispo, CA**
Student Researcher (PHOS and CRIAS projects)   *JAN 2024 - JUN 2024*
○ Placeholder

Compass Group USA   **San Luis Obispo, CA**
Food Service Worker   *JAN 2024 - JUN 2024*
○ Placeholder

General Polymer Solutions (GPS Polymers) LLC   **Upland, CA**
Customer Fulfillment and Logistics   *AUG 2021 - SEP 2023*
○ Placeholder

US Soccer Federation   **Upland, CA**
US Soccer Grassroots Referee (Grade 8)   *JUN 2021 - SEP 2023*
○ Placeholder

Kessen Star Spinners   **Upland, CA**
Founder, President, and CEO   *DEC 2015 - SEP 2016*
○ Placeholder

Skills

Technical Skills
○ **Languages:** Python, Elixir, SQL, Shell Scripting, LaTeX, Julia, Nim, Clojure
○ **Data Science:** Polars, Spark, Numpy, Matplotlib, Sqlite, Postgres, DuckDB
○ **AI/ML:** PyTorch, LightGBM, Scikit-learn, LangChain, Snorkel, Transformers, PEFT, ChromaDB
○ **Knowledge Graphs:** Graph Databases, Ontology, KGX, Centrality, Graph Neural Networks
○ **NLP:** spaCy, NLTK, Embeddings, Text Classification, TF-IDF
○ **DevOps:** Nix, Docker, Setuptools, Mix, Pytest, Kubernetes

Domain Knowledge
○ **Biology:** Heterogenous Multiomic Data, Shotgun Metagenomics, Polygenic Risk Scores, ELISA
○ **Chemistry:** DFT, Mass Spectrometry, ^{1}H NMR, FTIR, Organic Synthesis, Equillibreum
○ **Data Science:** PCA, KernelPCA, UMAP, Pearson Correlations, Logistic Regression, Deep Learning, ANOVA
○ **Business:** SPIN Selling, Door-To-Door Sales, Product Marketing, Agribusiness, Microeconomics, Macroeconomics

Additional Competencies
○ **Scientific Communication:** Lab Meetings, Conference Presentations, Journal Writing, Funding Proposals
○ **Leadership and Collaboration:** Mentoring, Team System Design, Knowledge Graph, Microbiome, and Software Consulting

Publications

[1] Skye L. Goetz, Amy K. Glen, and Gwênlyn Glusman. MicrobiomeKG: Bridging Microbiome Research and Host Health Through Knowledge Graphs. *Frontiers in Systems Biology*, 2025.

[2] Karamarie Fecho, Gwênlyn Glusman, Sergio E. Baranzini, Chris Bizon, Matthew Brush, William Byrd, Lawrence Chung, Andrew Crouse, Eric Deutsch, Michel Dumontier, Aleksandra Foksinska, Jennifer Hadlock, Kaiwen He, Sui Huang, Robert Hubal, Gregory M. Hyde, Sharat Israni, Kelyne Kenmogne, David Koslicki, Jana Dorfman Marcette, Ewy A. Mathe, Abrar Mesbah, Sierra A. T. Moxon, Christopher J. Mungall, John Osborne, Carrie Pasfield, Guangrong Qin, Stephen A. Ramsey, Justin Reese, Jared C. Roach, Reese Rose, Karthik Soman, Andrew I. Su, Casey Ta, Gaurav Vaidya, Rosina Weber, Qi Wei, Mark Williams, Chunlei Wu, Colleen Xu,

Chase Yakaboski, and The Biomedical Data Translator Consortium. Announcing the Biomedical Data Translator: Initial Public Release. *Clinical and Translational Science*, 2025.

[3] Guangrong Qin, Kamileh Narsinh, Qi Wei, Jared C. Roach, Arpita Joshi, Skye L. Goetz, Sierra T. Moxon, Matthew H. Brush, Colleen Xu, Yao Yao, Amy K. Glen, Evan D. Morris, Alexandra Ralevski, Ryan Roper, Basazin Belhu, Yue Zhang, Ilya Shmulevich, Jennifer Hadlock, and Gwênlyn Glusman. Generating Biomedical Knowledge Graphs from Knowledge Bases, Registries, and Multiomic Data. *bioRxiv*, 2024.

Education

California State Polytechnic University (Cal Poly)   **San Luis Obispo, CA**
BS Biochemistry   *Feb 2024 - Present*
○ GPA: 3.626/4.000
○ Graduation Date: Spring Quarter 2026
○ Consulted on Machine Learning Senior Projects for Computer Engineering Students
  - Improved AUC by 0.15
○ Developed and Trialed Computational and Machine Learning Techniques for Biochemical Assays in Lab
  - Improved R^2 Coefficients by 0.08 on Average
○ Trialed Modifications to Organic Syntheses in Lab
  - Speed Up Cited Procedure by 30 Minutes
○ Consulted on Multinomial Classification Efforts in the Bioinformatics Lab

California State Polytechnic University, San Luis Obispo   **San Luis Obispo, CA**
BS Agribusiness   *SEP 2023 - FEB 2024*
○ Completed 5 Months of Coursework Before Transitioning to Biochemistry
○ Wrote a Comprehensive Report on the Economics of the California Almond Industry for the 2022 Growing Season

Upland High School   **Upland, CA**
High School Diploma   *AUG 2019 - JUN 2023*
○ GPA: 4.000/4.000
○ High School Soccer 4 Years
  - Team Captain 3 Years
  - Varsity Coaches Award
  - Varsity Most Improved Player Award
  - 2021-2022 Golden Boot
○ Designed (with CAD) and 3D Printed Ceramic Stamps for the Ceramics Studio
○ Wrote AP Physics Notes Programs for Class TI84s

Talks and Presentations

Conference and External

○ **This Time on MultiomicsKG: Edge Scoring!** – NCATS Biomedical Data Translator Fall Relay (Bethesda, MD)   SEP 2025
○ **Gut Microbiome Signatures of Vegan, Vegetarian, and Omnivore Diets across 21,561 Individuals** – ISB Micro Journal Club (Seattle, WA)   AUG 2025
○ **Updates on the New MultiomicsKG** – NCATS Biomedical Data Translator Summer Relay (Bethesda, MD)   JUN 2025
○ **MicrobiomeKG: Extracting Relationships between the Microbiome and Host Health from Published Supplementary Materials** – Cal Poly Bailey College Research Symposium (San Luis Obispo, CA)   MAY 2025
○ **MultiomicsKG: Extracting Knowledge Assertions from Tabular Data in Supplementary Materials** – NCATS Biomedical Data Translator Spring Relay (Bethesda, MD)   FEB 2025
○ **MicrobiomeKG (v0.1): A Microbiome-Centric Knowledge Graph Facilitating Human Reasoning Across the Biomedical Domain** – ISB Summer Research Poster Session (Seattle, WA)   JUN 2024

Group and Lab

○ **This Time on MultiomicsKG: Edge Scores and Agentic Configurators** – ISB Hood Lab Meeting (Seattle, WA)   AUG 2025
○ **MicrobiomeKG: Connecting the Microbiome and Host Health through Knowledge Graphs** – ISB Thorsson-Shmulevich Lab Meeting (Seattle, WA)   JUL 2025
○ **MicrobiomeKG: Connecting the Microbiome and Host Health through Knowledge Graphs** – ISB Gibbons Lab Meeting (Seattle, WA)   JUL 2025
○ **Tablassert(3.0): Transforming Tabular Data Into Knowledge Graphs** – ISB Hood Lab Meeting (Seattle, WA)   FEB 2025
○ **MicrobiomeKG: Story of My Internship at ISB** – ISB Hood-Price Lab Meeting (Seattle, WA)   AUG 2024

Projects

Tablassert   **Placeholder**
Placeholder   *Placeholder - Placeholder*
○ Placeholder

MultiomicsKG (and MicrobiomeKG)   **Placeholder**
Placeholder   *Placeholder - Placeholder*
○ Placeholder

Table Config Agent   **Placeholder**
Placeholder   *Placeholder - Placeholder*

○ Placeholder

Clinical Trials Classifier

Placeholder

○ Placeholder