

# Zain Mobhani

## Software Engineer

### Skills

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**Software:** C, C++, Python, MATLAB, HTML, CSS, JavaScript

**Libraries & Tools (Backend):** asio, Eigen, Catch2, UnitTest++, nlohmann, protobuf, STL, libxml, Signal Processing Toolbox

**Libraries & Tools (AI/ML):** NLTK, Scikit-learn, TensorFlow, PyTorch, NumPy

### Experience

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#### Software Engineer

April 2023 – Present

Georgia Tech Research Institute – Software Engineering & Analytics Division (SEAL-SEAD)

Atlanta, GA

- Delivered a production quality signal-processing algorithm in C++ using MATLAB proof-of-concept, achieving over 250x reduction in computation latency & facilitating real-time operation
- Led development & integration of a robust toolkit to evaluate algorithm efficacy on CI/CD pipelines in real-time, accelerating error detection timelines from months to minutes
- Designed and engineered a lightweight C++ API to ingest spectrum analysis data, optimizing resource utilization and ensuring stability across heterogeneous systems
- Built an end-to-end diagnostics interface for threat classification software (C++), exposing performance and stability metrics through a web-based frontend to accelerate debugging and reduce issue resolution time
- Collaborated with frontend, backend, and hardware teams to modernize legacy systems and streamline data processing pipelines, delivering a 3x reduction in API complexity

#### Software Engineer Intern

May 2017 – Nov 2017

Tyroo, Inc.

New Delhi, India

- Developed and optimized a Python-driven data integration workflow to ingest user activity signals and feed Tyroo's AI/ML algorithms, enhancing ad relevance and boosting click-through performance
- Engineered a Python library to scrape and aggregate product data from multiple online sources, leveraging NLTK to generate automated product briefs for rapid prototyping of personalized ads
- Collaborated across teams to launch a one-click ad automation utility, transforming user data into high-engagement, personalized advertisements

### Education

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#### University of California at Santa Cruz

June 2022

Bachelor of Science in Computer Science, Minor in Statistics

Bachelor of Arts in Mathematics & Economics