

# Matthew Schiavi

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Software Engineer with a passion for working on complex problems.

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## Skills

**Languages:** C++, Fortran, Javascript, Java, Kotlin, Mathematica, Python, Ruby, Typescript  
**Libraries:** Express, Flask, Konva, Lodash, Mongoose, MPI, NPM, OpenMP, SQLAlchemy  
**Frameworks:** AngularJS, Angular, React, Ruby on Rails  
**Database:** MongoDB, PostgreSQL  
**Tools:** AWS, Docker, GIT, Github Actions, Kubernetes, Postman

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## Employment History

### Freelancing Software Engineer

10/2020 - Present

#### QuickRemind via Albatross Ventures

- Developed deployment pipeline through github actions for the frontend service to AWS
- Developed deployment pipeline via AWS pipeline for the Rails API/Sidekiq service
- Developed a development environment via Docker Compose
- Created scheduled jobs via Sidekiq and AWS Lambda
- Wrote and modified api endpoints for the Rails API
- Developed React components for the Frontend service

#### Client Through Upwork

- Wrote queries for MONGO database using Mongoose in Javascript
- Developed React components for various features

### Full Stack Engineer - GritSeed

01/2020 - 09/2020

#### GritSeed Application

- Developed custom document user interface that allows dynamic field inputs to pdf files.
- Twilio, WeChat, and Facebook integration for our Job-Req and Journeys product
- Implementation of caching static files which required refactoring of the codebase
- Implementation of in-house Analytic API's
- Helped implement custom fields (unstructured data) throughout the application

### Graduate Research Assistant - University at Buffalo

06/2017 - 08/2019

#### Higgs Boson Decay to two Bottom quarks at N3LO - <https://arxiv.org/abs/1904.08960>

- Wrote a Fortran routine to numerically integrate probability functions using the VEGAS algorithm. This program closely resembled MCFM (<https://mcfm.fnal.gov/>)
- Modified phase space generation of particle decay for the Antenna Subtraction method.
- Corrected the Leading Order probability function for Higgs decay to four bottom quarks at LO
- Corrected the legacy Jet Finding Algorithm being used.

### Teaching Assistant - University at Buffalo

07/2017 - 06/2019

#### Physics Recitation (Course Secretary) :

- Instructed two classes of 30 students weekly
- Organized Homework, Exams, Grades, and Weekly Quizzes for around 1000 students

#### Physics Lab:

- Demonstrated and Supervised labs for freshman and sophomore level students
  - Graded weekly Lab reports and monthly Exams
  - Scheduled and held office hours weekly to assist students with homework and course material
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## Education

Master of Science in Physics | (08/2017 - 09/2019) | GPA: 3.92 | University at Buffalo

Bachelor of Science in Physics with a minor in Mathematics | (09/2012 - 05/2017) | University at Buffalo