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Muhanned Ibrahim

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Employment

Lead Flight Software Engineer — **UB Nanosatellite Laboratory** — **Aug. 2017 – present**

- Funded by NASA and the Air Force Research Laboratory (AFRL) to develop and launch nanosatellites (cubesats).
- Developing flight software with NASA's cFS framework.
- Co-developed a duplex radio communication interface in C++.
- Host of weekly meetings and work sessions with other subsystems as flight software lead.
- Developed a sun-sensor scaling protocol in C++.

Undergraduate Research Assistant — **SUNY Buffalo** — **May 2019 – present**

- Research supervisor: Dr. Varun Chandola.
- Developing machine learning models to forecast diabetic patients' blood-glucose levels.
- Designed and implemented efficient data-parsing algorithms.
- Reduced our average Support Vector Regressor (SVR) model error by 23%.
- Reduced our average Gaussian Process Regressor (GPR) model error by 24%.

Undergraduate Teaching Assistant — **SUNY Buffalo** — **Aug. 2019 – present**

- UTA for CSE 250 - Data Structures (273 students) and CSE 396 - Intro. to the Theory of Computation (148 students).
- Responsible for hosting weekly office hours.
- Responsible for proctoring and grading midterm and final exams.

Summer Research Intern — **CSTEP SRP** — **May 2019 – July 2019**

- Competitively selected to participate in an 8.5-week intensive summer research program.
- Presented research results at symposiums and statewide conferences.
- Learned how to write effective grant proposals.
- Won a best poster award among 24 participants at concluding research symposium.

Education

Buffalo, NY — **SUNY Buffalo** — **Jan. 2017 – May 2021**

- M.S. in Computer Science, May 2021.
- B.S. in Computer Science and Mathematics (double major), May 2021.
- Graduate Coursework: Machine Learning; Algorithms for Modern Computing Systems; Real Analysis; Non-parametric Machine Learning.
- Undergraduate Coursework: Operating Systems; Software Engineering; Algorithm Analysis and Design; Programming Languages; Differential Equations; Number Theory; Probability Theory; Data Structures.

Technical Experience

Projects

- **Pintos Operating System** (2019). UNIX-style OS with an alarm clock, priority scheduler, and multilevel feedback queue scheduler. C

Additional Experience and Awards

- **Citizenship:** Citizen of the United States of America.
- **Programming Mentor (2016 – present):** Mentoring the Programming Team of Eastridge High School Robotics every winter.
- **Scholarship:** Awarded NASA's New York Space Grant of $1,500.
- **Scholarship:** Awarded the Hazel and John Wilson Mathematics Scholarship of $2,680.
- **Scholarship:** Awarded the George K. Fraley Scholarship of $1,500.
- **Offer:** Received and accepted Summer 2020 research offer at MIT Lincoln Laboratory.
- **Honor:** Competitively admitted to Johns Hopkins University's EHOP 2019 cohort.

Languages and Technologies

- C; C++; Python; OCaml; Scala; Java; MIPS Assembly
- TensorFlow; scikit-learn; Keras; OpenCV; Visual Studio; Git; GNU Debugger (GDB)