

Advait Patel

Aspiring Computer Science Major
Illinois Mathematics & Science Academy

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Summary

Senior at the Illinois Mathematics and Science Academy (IMSA) with passion for computer science and engineering. Co-captain for FIRST Tech Challenge robotics team, leading robot programming and team outreach. 4 years of programming experience, with working knowledge of Java, C#, Python, Kotlin, and HTML/CSS/JS. Working knowledge of machine learning concepts. Experience working with Agile software development framework.

Education

IMSA - Class of 2022 SAT - 1570/1600 AP Computer Science A - 5/5 AP BC Calculus - 5/5
Relevant Coursework: Linear Algebra, Machine Learning, Calc-Based E&M, Calc-Based Mechanics, Multivariable Calculus, Differential Equations, Computational Science, Web Technologies

Relevant Skills

- Programming Languages - Java, C#, Python, Kotlin, HTML/CSS/Javascript, PHP, SQL
- Technologies - Tensorflow, Visual Studio, Android Studio, Git/GitHub
- Languages - English, French, Hindi, Gujarati

Experience & Extracurriculars

Summer 2021 Mobile Development Intern Trimble Transportation

- Worked on eFleetSuite, an app that offers truck drivers paperless compliance with federal regulations.
- Worked with ASP.NET framework in C#.
- Wrote production ready code within first few weeks.

2017 – Present FIRST Tech Challenge (FTC) Robotics Founder, Co-Captain, and Software Lead of TITANS 17576 since 2019 Software Lead of TESLAS 13197 from 2018 to 2019

- Led a diverse, geographically dispersed team to build and program an award-winning, competitive FTC robot.
- Implemented control theory algorithms, particularly PID controllers and motion profiling, to ensure smooth and accurate robot movement.
- Utilized computer vision algorithms with OpenCV to detect game elements.
- Acquired corporate sponsors and raised \$10k in sponsorships and grants to fund team activities.
- Organized community outreach events, such as free Java workshops for local FTC teams and LEGO EV3 camps.
- Received the 2021 FTC Illinois Dean's List Finalist Award for my exceptional technical, outreach, and leadership contributions to my team and community, as well as numerous state and regional team awards.

2020 – Present Student Researcher, Planet Transit Detection Project IL Mathematics & Science Academy

- Analyzed light-curve data from the Kepler Space Telescope in Python and detected transits using the Transit-Least-Squares (TLS) method.
- Used Python libraries including NumPy, Matplotlib, and Pandas.
- Currently building a deep convolutional neural network with Tensorflow to classify light-curve data.

2019 – Present Chief Financial Officer Epoch @ IMSA

- Organized events and raised \$5k in funding to build the cluster through grants and corporate sponsorships.

2018 – 2019 STEM Instructor iSTEAM Studio

- Developed STEM curriculum and taught STEM classes to students K-12, including Python and Java programming, EV3 robotics, and 3D printing.