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THE POWER OF ALUMNI-STUDENT MENTORING | DR. ALAN FRIEDLANDER '80

**“It’s gotten to the point
where it’s just been
something really fun for
me to do in my free time.”**

— Taylor Ferebee '17



“Here’s an app for that” has become the mantra of today’s tech-savvy crowd. Digital applications exist for everything from checking the weather, to editing photos, to playing virtual trivia games with friends.

Anyone with smart technology can open their app store and browse the more than 1 million available applications. Far fewer people, however, actually understand the complex process that goes into building these apps.

That’s what makes **Taylor Ferebee '17** so unique.

For more than a year, Ferebee has been working with a team of elite mathematicians to publish her **Movie Predictor** app and multi-predictor algorithm.

As a double major in physics and mathematics at Roanoke College, Ferebee started exploring her academic interests even before starting college, which ultimately led to her interest in app design and functionality.

Initially, the app only had entry fields where a user could provide basic information about a film. More recently, however, Ferebee added a text input section in which a user can provide a portion (350 words) of a screenplay to assess the script for potential profitability.

After finishing that optimization, Ferebee wanted to see how her app and its original algorithm could be applied to predict other outcomes outside of film.

“I’ve been looking into predicting health outcomes, specifically of college students,” Ferebee says. “You’d use values such as how much time a student is in class, how much work they have to do and stress level to predict what their overall health would be.”

When asked how she came up with the idea, Ferebee simply responds, “I got a cold last year, and I wondered if it was something I was doing to make myself sick.” That simple

FORECASTING FILMS

RC junior Taylor Ferebee builds a **Movie Predictor** app and multi-predictor algorithm.

BY HANNAH CLINE '15 | PHOTO BY SAM DEAN



When she was just 15, Ferebee was the youngest Aerospace Ambassador to ever work for NASA, performing research for NASA’s Space Technology Office. While there, she made live demos of the Curiosity Rover’s dissent to Mars, among other things.

The summer after her freshman year at Roanoke, Ferebee was chosen to be a student of accomplished scientist Steven Wolfram’s international summer program at the Wolfram Science Summer School. There, she spent three weeks working with Wolfram, the school’s founder and inventor of the popular computational software program Mathematica. Under Wolfram’s guidance, Ferebee began to conceptualize her app.

Ultimately, she decided to combine her love of filmmaking with her passion for mathematical concepts. Her goal was to create an app that could predict the box office success of a film using artificial intelligence.

“I ended up doing research on which parts of films would be good for statistical analysis,” says Ferebee. “I started simple with the movie posters, and then looked at what time of the year the film is going to be released, the genre of the film and [what] makes a film profitable.”

For the past year, Ferebee has stayed in touch with research assistants at the Wolfram school and continued to optimize her app. Her goal is to have a working multi-predictor algorithm that she can sell — primarily to very tech-savvy people with very specific interests — by 2020.

question launched the next phase of her research.

As a full-time student, she uses the app as an opportunity to set aside her coursework and experiment with something that she is passionate about.

“It’s gotten to the point where it’s just been something really fun for me to do in my free time,” she says.

Ferebee was invited for another session of Wolfram’s Science Summer School but decided to expand on her talents in other ways. As an active member of Roanoke’s Catholic Campus Ministry, Ferebee spent part of this summer working with the communications department at Immaculate Conception Church, a Catholic parish in Hampton, Va. While there, she did a full data analysis of the demographics of the church to create a three-year outreach plan appealing to subsets of the population that were not well represented in the church’s current congregation.

Applying her mathematical background to answer practical questions seems to be a theme in Ferebee’s continued pursuits. She is optimistic her future projects will be utilitarian.

“I recently learned about an opportunity called Data Science for the Social Good. It does similar analysis, like I did for the church, for other nonprofits,” she says. “I’d love to do something like that in the future — basically helping the people who help the world.”