



1  
00:00:00,006 --> 00:00:00,716  
[MUSIC]

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00:00:00,716 --> 00:00:08,626  
[Kimberly:] I am Kimberly Hambuchen, I  
currently work in the Robotics Systems

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00:00:08,626 --> 00:00:13,546  
and Technology Branch at Johnson Space  
Center and I'm basically a robotics engineer.

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00:00:14,346 --> 00:00:16,656  
A robotics engineer can do many things.

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00:00:16,746 --> 00:00:22,446  
I personally work on software for  
what we call human robot interaction.

6  
00:00:22,446 --> 00:00:26,386  
I design tools that let people operate robots,

7  
00:00:26,646 --> 00:00:30,476  
tools that will help robots  
interact with people.

8  
00:00:31,116 --> 00:00:36,006  
For example, we have Robonaut 2 on Space  
Station right now and I'm actually working

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00:00:36,006 --> 00:00:41,956  
on some software that will help it interact  
intelligently with the astronauts onboard.

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00:00:41,956 --> 00:00:49,966  
So I really spend my day designing software  
and just in general playing with robots.

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00:00:51,886 --> 00:00:55,476  
[Carolina:] My name is Carolina

Restrepo and I work at NASA.

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00:00:56,296 --> 00:01:00,516

So here at NASA I work in a group called the Integrated Guidance,

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00:01:00,516 --> 00:01:02,446

Navigation and Control Analysis Branch.

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00:01:02,496 --> 00:01:07,416

What that means is that we integrate three different kinds of systems

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00:01:07,416 --> 00:01:09,616

that are typical of anything that flies.

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00:01:09,756 --> 00:01:15,406

So, the Guidance System tells the spacecraft where and how it should fly.

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00:01:15,706 --> 00:01:20,186

The Navigation System tells the spacecraft where it is at any given time,

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00:01:20,186 --> 00:01:26,466

and the Control System fires the engines to make any necessary corrections so that you can get

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00:01:26,526 --> 00:01:28,606

from where you are to where you should be.

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00:01:29,046 --> 00:01:35,716

So here at work I simulate how a spacecraft flies and we design all of the algorithms

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00:01:35,716 --> 00:01:39,056

which is essentially the math that goes into the Flight Computer

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00:01:39,056 --> 00:01:41,096  
and tells the spacecraft how to fly.

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00:01:42,366 --> 00:01:44,456  
[Tejal:] My name is Tejal  
Fairfield and I work at NASA.

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00:01:44,456 --> 00:01:50,006  
I help engineers manage their  
projects from a programming, planning,

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00:01:50,236 --> 00:01:51,946  
budgeting and executing perspective.

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00:01:52,466 --> 00:01:58,426  
I help them manage their schedule and their  
cost and the services they provide the customer.

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00:01:59,166 --> 00:02:04,156  
I help engineers spend their money effectively,  
and I make sure that they spend their money

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00:02:04,156 --> 00:02:06,716  
where they said they were going to  
spend it and with the best intentions.

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00:02:06,716 --> 00:02:13,776  
[Kimberly:] So I was the smart kid, and I just  
remember thinking, well I don't want everybody

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00:02:13,776 --> 00:02:16,756  
to know that I'm too smart or something.

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00:02:17,686 --> 00:02:20,386  
And, you know, it all turned out very well...

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00:02:20,426 --> 00:02:26,766  
From the time that I was a young girl, I  
was a fan of math, fan of science, physics,

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00:02:27,846 --> 00:02:32,226

that sort of thing, and I kind of always knew I wanted to go into engineering.

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00:02:32,466 --> 00:02:36,936

I had an older brother who was majoring in engineering, so I knew what it was,

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00:02:36,936 --> 00:02:40,476

knew that it was basically a problem solving type of area.

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00:02:40,666 --> 00:02:47,286

And I loved to solve problems, so that's really what pushed me into engineering.

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00:02:47,286 --> 00:02:53,426

[Carolina:] I was born in Texas but when I was about two weeks old and I was allowed to get

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00:02:53,426 --> 00:02:56,136

onto an airplane we went back to South America where my parents are.

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00:02:56,136 --> 00:03:00,416

I grew up nine years in Colombia and then nine years in Bolivia.

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00:03:01,306 --> 00:03:07,776

In Bolivia where I went to high school we didn't have any choices like you do here in the US

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00:03:08,536 --> 00:03:12,746

but instead I took all the regular classes with everyone else and I had a few good math

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00:03:12,866 --> 00:03:15,386

and physics teachers that I really liked.

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00:03:15,386 --> 00:03:20,176

I liked how clearly they explained things and how clear things became

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00:03:20,176 --> 00:03:23,816

that I had been wondering about but nobody had ever explained them to me.

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00:03:23,816 --> 00:03:27,776

So that was really what attracted me to stay in math and science.

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00:03:29,026 --> 00:03:33,436

[Tejal:] Growing up I always had a tough time with creative subjects like English just

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00:03:33,436 --> 00:03:35,756

because English wasn't my first language, Kijathi was.

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00:03:36,256 --> 00:03:40,816

And so whenever I was trying to learn English I spoke like Yoda

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00:03:40,816 --> 00:03:45,456

because I put the verb before the noun just because that's what you do in my language,

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00:03:45,986 --> 00:03:48,246

and so math was just easier for me.

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00:03:48,376 --> 00:03:53,226

When I was in middle school actually I tested out of the eighth grade math class

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00:03:53,386 --> 00:03:54,816

and so they moved me up into algebra.

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00:03:55,166 --> 00:04:00,126

That was my first exposure to math and I fell in

love with it just because it made logical sense.

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00:04:00,646 --> 00:04:04,016

When I was applying for NASA, I seriously didn't think I was going to get it

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00:04:04,056 --> 00:04:07,206

because I was a Business Major, I was Management and Marketing,

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00:04:07,496 --> 00:04:08,956

and how does that apply to budget?

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00:04:09,386 --> 00:04:13,086

But it actually does, because when you manage a budget you have to be a strategic thinker,

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00:04:13,086 --> 00:04:18,916

you have to think 'how can I make this money do what I need it to do?'.  
'

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00:04:18,916 --> 00:04:24,266

[Kim:] I loved math, I loved sitting down and doing addition, subtraction,

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00:04:24,266 --> 00:04:27,306

and oh when I got to calculus in high school I was so excited, I loved it.

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00:04:27,756 --> 00:04:31,776

So I know there have got to be other girls who are middle school,

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00:04:31,776 --> 00:04:37,016

junior high aged who feel the same way and I just would like for them to know

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00:04:37,016 --> 00:04:42,986

that you can actually have a whole lot of fun and a career in science and technology.

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00:04:43,476 --> 00:04:46,776

[Tejal:] You are your only  
obstacle in life, period.

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00:04:46,996 --> 00:04:53,396

[Caroline:] It's important to, to just trust  
in yourself, and try as hard as you can,

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00:04:53,736 --> 00:04:56,056

don't just give up because somebody told you to.

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00:04:56,966 --> 00:04:59,536

[Tejal:] As a woman, you can do anything.

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00:05:00,796 --> 00:05:07,766

Wow! You can do anything you put your heart to,

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00:05:08,026 --> 00:05:11,106

don't let anyone limit you,  
don't let anyone hold you back.

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00:05:11,926 --> 00:05:15,286

You should always strive for  
everything that you want.

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00:05:15,586 --> 00:05:17,366

If you want something, go out there and get it.

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00:05:17,976 --> 00:05:20,626

Don't let anyone hold you back,  
or anything hold you back.

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00:05:21,086 --> 00:05:24,836

I just want you to know, that you  
are someone, and you are somebody