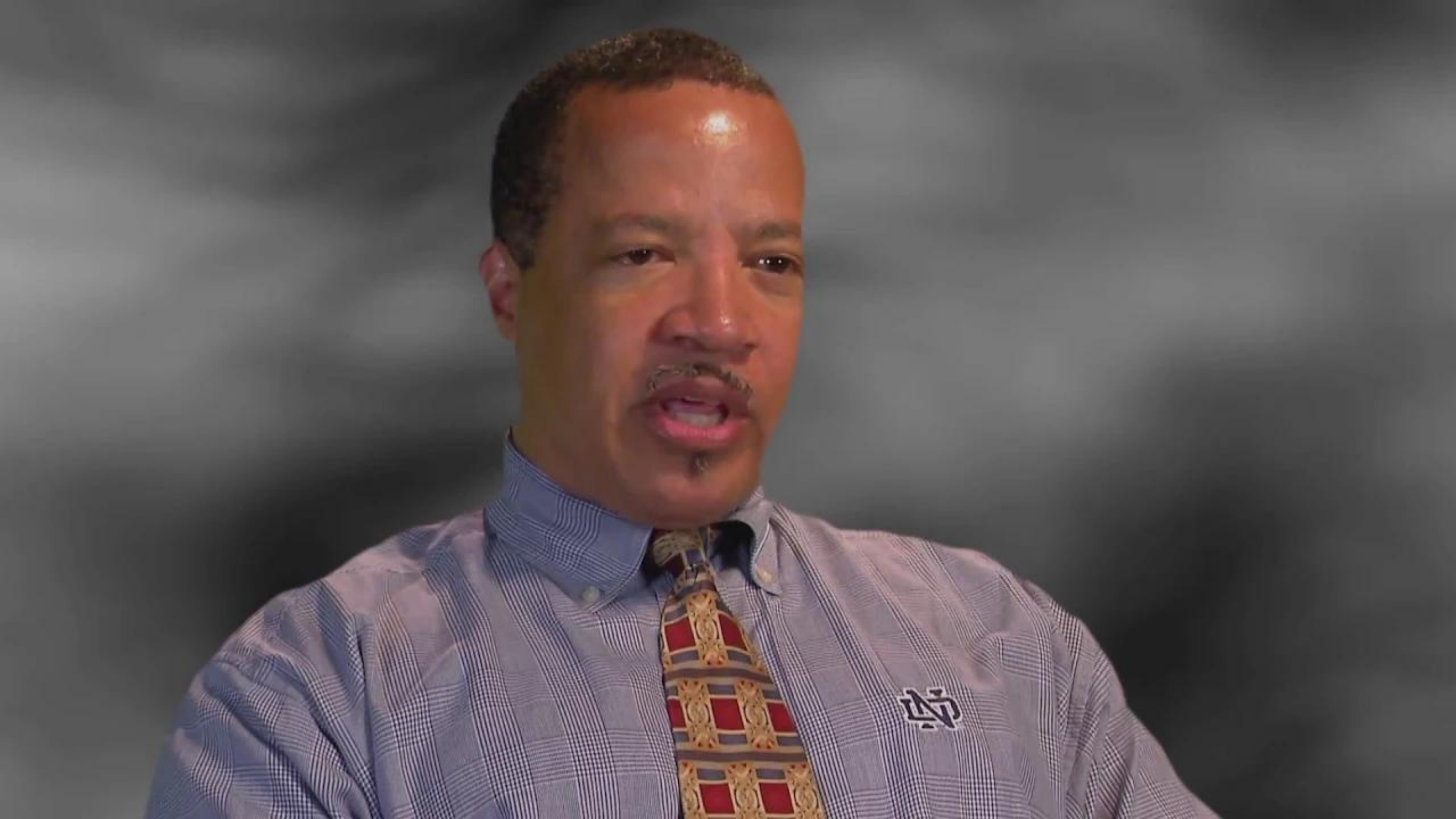

1
00:00:08,742 --> 00:00:16,981
Well. I was born in 1957 and
turned six and in 1963 and I

2
00:00:16,981 --> 00:00:21,181
integrated Fifth Avenue School
here in Huntsville and became the

3
00:00:21,181 --> 00:00:24,517
first Black child to integrate
the public schools in the state

4
00:00:24,517 --> 00:00:27,891
of Alabama on September 9, 1963.

5
00:00:27,891 --> 00:00:32,680
I feel like integrating the school
helped me a lot later on because I

6
00:00:32,680 --> 00:00:36,850
had a chance later on to go to some
better schools with some better

7
00:00:36,850 --> 00:00:41,014
facilities and equipment and I think
that helped prepare me later for

8
00:00:41,014 --> 00:00:45,990
taking advanced math classes in high
school for example and being able to

9
00:00:45,990 --> 00:00:50,762
qualify and get into the University
of Notre Dame later on where I

10
00:00:50,762 --> 00:00:54,353
learned a lot about science and
mathematics there. Did a lot of

11

00:00:54,353 --> 00:00:58,835
programming there and that really
laid the groundwork for my

12
00:00:58,835 --> 00:01:02,533
professional career, programming,
software design, those kinds of things.

13
00:01:12,141 --> 00:01:19,345
Most of my STEM professional experience
has been in computer programming,

14
00:01:19,364 --> 00:01:23,405
but not just that. I have been able
to use a lot of my mathematics and

15
00:01:23,406 --> 00:01:30,764
physics background. For example,
when I worked at GE in Schenectady,

16
00:01:30,764 --> 00:01:34,961
that was my first professional job.
That was back in 1979, I started in

17
00:01:34,961 --> 00:01:42,999
1979 and the area I worked in was a
manufacturing area and they needed

18
00:01:42,999 --> 00:01:47,776
a software system to analyze some
quality control results and they

19
00:01:47,776 --> 00:01:50,175
knew it was going to take two or
three months for the software

20
00:01:50,175 --> 00:01:53,118
people to develop that. So in a
couple of days, I wrote a program

21

00:01:53,118 --> 00:01:56,772
that did most of what they needed
done. Wrote it in Fortran, that

22
00:01:56,772 --> 00:02:01,994
was the language back then. And
that program they used to analyze

23
00:02:01,994 --> 00:02:06,101
the Q series results until the
real program got put in place.

24
00:02:06,101 --> 00:02:10,886
That was one example. Also, later
on I had a chance to write some

25
00:02:10,886 --> 00:02:15,965
software for NASA when I worked
at NASA, some software to analyze

26
00:02:15,965 --> 00:02:22,695
experiment data that was coming
down via the TDRSS satellites. The

27
00:02:22,695 --> 00:02:25,913
person who had that job to
actually analyze that data had to

28
00:02:25,913 --> 00:02:30,040
do it manually, had to look at
columns of information, actually

29
00:02:30,040 --> 00:02:34,843
it was just an 80 column piece of
information, and go through there

30
00:02:34,843 --> 00:02:38,870
and pull out the important
information and then manually draw

31

00:02:38,870 --> 00:02:42,969
graphs to show when the experiment
was running, when the data was

32
00:02:42,969 --> 00:02:46,035
coming down, what the results were.
I looked at that and I thought,

33
00:02:46,035 --> 00:02:49,208
well that can be automated very
easily. Because the manual job was

34
00:02:49,208 --> 00:02:52,917
very tedious and error prone, but
with a computer, of course, it got

35
00:02:52,917 --> 00:02:56,006
it right every time. So in about a
week and a half, I wrote a program

36
00:02:56,022 --> 00:03:00,862
to analyze that same data and chart,
make graphs of the information.

37
00:03:00,878 --> 00:03:06,063
That person still thanks me to this
day for automating a process that

38
00:03:06,063 --> 00:03:10,039
she had to do manually. But I have
also had a chance to write some

39
00:03:10,039 --> 00:03:16,066
simulation software for missile
interceptor programs. There was

40
00:03:16,066 --> 00:03:19,995
going to me a missile test, at one
point I was working at Lockheed

41

00:03:19,995 --> 00:03:23,186
Martin, there was going to be a
missile test out at Kwajalein. But all

42
00:03:23,186 --> 00:03:27,086
of the equipment had not arrived, it
was not delivered in time to support

43
00:03:27,102 --> 00:03:31,999
this test. I told my manager that I
could write some software to simulate

44
00:03:31,999 --> 00:03:36,011
that piece of equipment that was
missing so that it would receive the

45
00:03:36,011 --> 00:03:39,898
inputs from the previous piece of
equipment and do the processing and

46
00:03:39,898 --> 00:03:43,072
then pass the outputs to the next
piece of equipment. So I did that

47
00:03:43,072 --> 00:03:46,816
and we were able to, I got a chance
to fly out to Kwajalein, which was

48
00:03:46,816 --> 00:03:50,129
nice, I got to spend some time in
Hawaii. But we were able to go

49
00:03:50,129 --> 00:03:53,248
ahead and run that test and it was
very successful. So I've had a chance

50
00:03:53,248 --> 00:03:58,959
to use a lot of my math and physics
background and really enjoyed, I

51

00:03:58,959 --> 00:04:02,069
think computer programming is really
what I have enjoyed most during my

52
00:04:02,069 --> 00:04:05,094
career. Unfortunately after you have
programmed for a while, they want

53
00:04:05,094 --> 00:04:08,953
you to become a software designer
and manage programmers and that is

54
00:04:08,953 --> 00:04:12,274
not as much fun as doing the actual
programming yourself.

55
00:04:12,274 --> 00:04:18,025
You know, science and math, those
things came pretty easily to me and

56
00:04:18,025 --> 00:04:22,890
like I said, having a chance to go
to some better schools prepared me

57
00:04:22,890 --> 00:04:26,947
for, by the time I got to Butler
High, lets see, I started Butler

58
00:04:26,947 --> 00:04:32,816
High in 1972, as a tenth grader in
1972, but it allowed me to take an

59
00:04:32,816 --> 00:04:37,652
advanced math track once I got to
Butler and that really helped to

60
00:04:37,652 --> 00:04:42,016
prepare me to go to Notre Dame.
When I got to Notre Dame, I was

61

00:04:42,032 --> 00:04:46,558
taking Calculus and I was competing
with some kids who had had two

62
00:04:46,558 --> 00:04:49,999
semesters of calculus in high
school. So I was at a little bit

63
00:04:49,999 --> 00:04:54,033
of a disadvantage, but my advanced
math and trig background was good

64
00:04:54,033 --> 00:04:58,046
enough that it allowed me to hang
in there and compete with those kids

65
00:04:58,046 --> 00:05:03,058
and that really prepared me for a
technical career, a scientific and

66
00:05:03,058 --> 00:05:04,924
technical career.

67
00:05:04,924 --> 00:05:08,822
Well dad really enjoyed mathematics
back when he was in school, now he

68
00:05:08,822 --> 00:05:12,856
had never gone as far as calculus,
as far as taking calculus, but he

69
00:05:12,856 --> 00:05:16,622
taught me a lot about math, I mean
at an elementary school level. For

70
00:05:16,622 --> 00:05:21,019
example, he showed me how to use a
slide rule. Now I never had to

71
00:05:21,019 --> 00:05:24,101

actually use a slide rule later
but learning the concepts of how

72
00:05:24,101 --> 00:05:27,966
they worked and all. It was just
interesting to me, if was fascinating

73
00:05:27,966 --> 00:05:33,807
to me. So it just sort of gave me an
enthusiasm for mathematics. So dad

74
00:05:33,807 --> 00:05:38,926
really enjoyed that stuff and even
though he got a medical degree, he

75
00:05:38,926 --> 00:05:46,857
was a physician, he never had to take
calculus. So he could only take me so

76
00:05:46,857 --> 00:05:51,919
far as far as my mathematics. By the
time I got to college, I guess I had

77
00:05:51,919 --> 00:05:57,864
passed the furthest that he ever made
it in math, but he had instilled in me

78
00:05:57,864 --> 00:06:02,046
that enthusiasm for math and that
appreciation for math to the point

79
00:06:02,046 --> 00:06:08,892
that I sort of developed some theorems
as a kid that, later on when I took

80
00:06:08,892 --> 00:06:12,956
algebra, I said, oh yeah, that is the
same thing that I discovered five

81
00:06:12,956 --> 00:06:16,207

years ago or something like that,
about math, about algebra and that

82
00:06:16,207 --> 00:06:20,199
sort of thing. But that started with
dad instilling that understanding and

83
00:06:20,231 --> 00:06:22,561
that appreciation for mathematics in me.

84
00:06:32,086 --> 00:06:37,026
Well, I think it is better than when
it was when I was a youngster. And I

85
00:06:37,026 --> 00:06:42,068
was thinking back, when I was a, I
think a sophomore at Notre Dame for

86
00:06:42,068 --> 00:06:46,931
example, I was in the electrical
engineering curriculum, I think there

87
00:06:46,931 --> 00:06:49,814
were only, I think there were only
about seventy or eighty of us in

88
00:06:49,814 --> 00:06:55,102
electrical engineering as I recall,
I think there were only two or three

89
00:06:55,102 --> 00:07:01,988
African American men and one African
American female in all of the electrical

90
00:07:01,988 --> 00:07:05,278
engineering program. And I know the
numbers are a lot, I dont know exactly

91
00:07:05,278 --> 00:07:07,997
what the numbers are now, but I have

talked to some professors over the

92
00:07:07,997 --> 00:07:13,951
years and I know that it is a lot better.
But I think today the teachers are

93
00:07:13,951 --> 00:07:18,066
better at encouraging the students
that have an aptitude for that sort of

94
00:07:18,066 --> 00:07:22,853
thing, to go ahead and pursue that sort
of thing. I compare it to again when I

95
00:07:22,853 --> 00:07:27,057
was a youngster, I know that a lot of
times, girls were not encouraged to do

96
00:07:30,845 --> 00:07:35,059
parents that, “No, you are going
to go to secretarial, you are going

97
00:07:35,059 --> 00:07:38,057
to take secretarial training” and
that sort of thing. Well I dont

98
00:07:38,057 --> 00:07:42,043
know and I cannot say for sure if
that happened with minorities,

99
00:07:42,043 --> 00:07:45,129
but I can imagine that there were
situations where minorities were

100
00:07:45,129 --> 00:07:48,586
discouraged from pursuing that sort
of thing. I dont think that is the

101
00:07:48,586 --> 00:07:52,923
case anymore. But one of the things

that I think is a tremendous help

102
00:07:52,923 --> 00:07:59,985
is if African American adults,
professionals especially, would do

103
00:07:59,985 --> 00:08:04,028
a lot of tutoring and mentoring.
Now I have done a lot of that over

104
00:08:04,028 --> 00:08:09,006
the years, going back to, I started
a tutoring, mentoring program out in

105
00:08:09,006 --> 00:08:13,829
Triana, which is ninety something
percent minority population. I have

106
00:08:13,829 --> 00:08:18,767
tutored and mentored at well what is
now Holy Family School, it used to

107
00:08:18,767 --> 00:08:21,132
be Saint Josephs School, it was
Saint Josephs when I went there.

108
00:08:21,132 --> 00:08:25,982
Tutored and mentored at the local
Catholic high school that we have,

109
00:08:25,999 --> 00:08:30,026
many years ago, and now, I am tutoring
and mentoring at Sonnie Hereford

110
00:08:30,026 --> 00:08:34,826
Elementary School here. And I think
it is really good for minority

111
00:08:34,826 --> 00:08:39,948
students to see other minorities

who are in technical fields and

112
00:08:39,948 --> 00:08:44,934
doing well in technical fields.
Now I think anybody who is

113
00:08:44,967 --> 00:08:48,015
interested in tutoring and
mentoring should do it, but

114
00:08:48,015 --> 00:08:51,445
I think it has more of an impact
when there are minority

115
00:08:51,445 --> 00:08:53,745
professionals who participate
in those types of programs

116
00:08:53,745 --> 00:08:56,979
where there are a lot of
minorities students where they can

117
00:08:56,979 --> 00:09:01,021
see the success of pursing
mathematics or pursuing physics,

118
00:09:01,021 --> 00:09:05,760
or computer programming, that sort
of thing. So I think that is one of

119
00:09:05,793 --> 00:09:11,002
the things that we could do today
that would really help to instill

120
00:09:11,002 --> 00:09:17,463
that love for technical subjects in
minority students these days.

121
00:09:17,463 --> 00:09:25,018
Another thing, I think back to my own

childhood. Being exposed to space, being

122
00:09:25,018 --> 00:09:30,537
exposed to the space program. I
think the Mercury Program ran until

123
00:09:30,537 --> 00:09:35,064
about 1963 as I recall. That is
when I started first grade. So

124
00:09:35,064 --> 00:09:39,749
when I was a grade schooler, I
paid a lot of attention to the

125
00:09:39,749 --> 00:09:43,449
Gemini Program, then the Apollo
Program and that really got me

126
00:09:43,449 --> 00:09:47,206
excited about space and about
wanting to do technical things.

127
00:09:47,206 --> 00:09:50,216
I guess I would say too, having
a telescope, being able to do

128
00:09:50,263 --> 00:09:55,992
things with a telescope, and even
science fiction, you know exposing,

129
00:09:55,992 --> 00:09:59,704
making sure kids get exposed to
things like that, even that can

130
00:09:59,704 --> 00:10:03,141
fire kids up. And even though,
obviously, a lot of that is fiction

131
00:10:03,141 --> 00:10:07,039
but a lot of that comes true in

the future, you know and I think

132
00:10:07,039 --> 00:10:12,910
that can help kids to dream and
to be inspired to try to do technical