

# Grayson Morris

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## HOW TO READ THIS RESUME

See the left and right columns for the usual list of education and experience, here in chronological order. The human story is in the middle column, if you'd like to know more about the path I've traveled.

1984

### HIGH SCHOOL DIPLOMA North Carolina School of Science and Mathematics

NCSSM opened in 1980 as the first of its kind in the US: a residential high school for academically gifted students, focused on science, technology, engineering, and math. Applicants undergo a rigorous selection process.

NL EQUIVALENT: VWO NT + NG

1989

### BSC MATHEMATICS University of North Carolina at Chapel Hill

A broad liberal arts education with a mathematics specialization.

**COURSEWORK** Advanced calculus | Algebraic structures | Differential equations | Differentiable manifolds | Geometry of curves and surfaces | Linear algebra | Real analysis | Topology

**PROJECT** In-depth review of Hermann Weyl's classic text *Symmetry*

**CHANCELLOR'S AWARD FOR STUDENT EXCELLENCE** 1986

**CGPA** 3.6 / 4.0

1993–96

### PHD CANDIDATE COMPSci University of North Carolina at Chapel Hill

UNC-CH has been a leading center of virtual environments research since the field's early days.

**MSC-LEVEL COURSEWORK** Algorithm analysis | Architecture & implementation | Automata | Complexity | Data structures | Graphics | Operating systems | Software design

**RESEARCH** Virtual environments under Fred Brooks

**NSF GRADUATE RESEARCH FELLOWSHIP** 1995

## MY STORY

In 1981, at the age of 14, I applied to the North Carolina School of Science and Mathematics. After a highly competitive selection process, I was admitted, and I graduated with my **HIGH SCHOOL DIPLOMA IN 1984**.

I took a year off, then went to college. With a perfect 4.0 / 4.0 GPA my first year, I was eligible to compete for the university's **AWARD FOR FRESHMAN EXCELLENCE**. Thanks to my additional activities, including volunteer work with The Hunger Project, I won!

In 1988 I was awarded one of four international student grants to assist NFRA (now ASTRON) staff members in their astronomical research. Those twelve weeks in Dwingeloo produced **FOUR ACADEMIC PAPERS ON RADIO ASTRONOMY IMAGING**. In late August I went back home to the US and completed my **BSC IN MATHEMATICS IN 1989**.

During my final semester of college, I was **HIRED TO TEACH PRECALCULUS** to first-year students. I loved it! My enthusiasm must have rubbed off on my students; I was nominated for the math department's teaching award. The university hired me for several more semesters over the years, including a summer program for disadvantaged students.

In the fall of 1991 I gave birth to my first child, and I spent the next two years at home. In 1993 I started a **PHD PROGRAM IN COMPUTER SCIENCE** at UNC, as part of Turing Award winner Frederick P. Brooks' Architectural Walk-through team. (Read the 2004 article "Massive Model Rendering System" for a brief project overview.) I worked hard both in class and on the team, and in 1995 I was awarded a **NATIONAL SCIENCE FOUNDATION GRADUATE RESEARCH FELLOWSHIP**.

As fate would have it, a year later **IBM** made me an offer I couldn't refuse, and I left school sans PhD. (By then I was a single mother working to make ends meet.) Big Blue hired me to implement graphics algorithms in assembly on an exciting new parallel architecture. Astonishingly, IBM canceled the project between my interview and my first day of work, so I ended up **PROGRAMMING THE G.729A SPEECH CODEC** on a different architecture.

1988

### SUMMER INTERN NFRA (now ASTRON)

Three-month grant to work with Stefi Baum & Chris O'Dea on radio astronomy imaging.

#### PAPERS

O'Dea, CP, SA Baum, C Stanghellini, **GB Morris**, AR Patnaik, and Gopal-Krishna. "Multi frequency VLA observations of GHz peaked spectrum radio cores." *Astron. Astrophys. Suppl. Ser.* 84 (1990): 549–62.

Stanghellini, C, SA Baum, CP O'Dea, and **GB Morris**. "Extended radio emission associated with GHz-peaked-spectrum radio sources." *Astron. Astrophys.* 233 (1990): 379–84.

O'Dea, CP, SA Baum, and **GB Morris**. "CCD observations of GigaHertz-peaked- spectrum radio sources." *Astron. Astrophys. Suppl. Ser.* 82 (1990): 261–72.

O'Dea, CP, SA Baum, **GB Morris**, DW Murhpy, and AG de Bruyn. "Optical and radio imaging of powerful, ultracompact GHz peaked spectrum radio sources." *Proceedings of the ESO Workshop on Extranuclear Activity in Galaxies* (1989): 79–84.

1989–94

### INSTRUCTOR University of North Carolina at Chapel Hill

Taught first-year university students.

**FALL 1994** Freshman precalculus.

**FALL 1993 & SPRING 1994** Undergraduate introduction to computer science.

**SUMMER 1990** College algebra for incoming minority freshmen with demonstrated difficulties in mathematics.

**FALL 1989 - SPRING 1991** Freshman precalculus.

1996–97

### SOFTWARE ENGINEER International Business Machines

Implemented the G.729A speech codec in assembly on IBM's Mwave digital signal processor.



1997–99

### SOFTWARE ENGINEER

#### Billions of Operations Per Second

Implemented a subset of the OpenGL graphics API in assembly on a four-core instantiation of BOPS' synchronous MIMD iVLIW ManArray architecture. See right column for patents.

1999–present

### COFOUNDER

#### Morris-Jacobs Child Development and Chaos Management

Managing a deeply intensive field research project into offspring development. Responsible for subjects' care and feeding, waste management, sensory stimulation, dual language acquisition, conflict resolution, education, and acquisition of appropriate social skills. Secondary tasks include subject transportation, environmental maintenance, and sustenance preparation. (Grain of salt available upon request.)

2002–19

### OWNER

#### Dutch-American Translations

Translation & writing. Highlights:

**TECHWATCH BOOKS** | 2018  
Translated Rene Raaijmakers' technology-heavy book *ASML's Architects* for the US market.

**BITS&CHIPS** | 2016–18  
Translated and edited the magazine's annual English-language issue for the Dutch high-tech industry.

**NANOLABNL** | 2013  
Took scientists' input and wrote a successful €26M grant proposal to fund QuEEen (quantum electrical engineering) under NWO's National Roadmap for Large-Scale Research Facilities.

2002–19

### SOFTWARE PROJECTS

A few small PHP/MySQL projects. Highlight: a simple question answering system to process natural-language queries posed in Dutch by visitors to a national energy provider's website.

## MY STORY CONTINUED

Meanwhile, the team from IBM's canceled project spun off a new startup called **BOPS**, and I soon joined them to implement a subset of the OpenGL graphics API in assembly on a four-core instantiation of the synchronous MIMD iVLIW ManArray architecture, so we could run the Viewperf CDRS-03 benchmark. (Read the 1998 article "New High-End Architecture" for a brief overview of this amazing system.) These were dynamic, creative years, and I was privileged to contribute to **FIVE PATENTS**.

Along the way, I met and married a charming Dutchman. Our son was born in 1999, and our daughter nineteen months later. I spent the next few years at home, working at least as hard as I had in industry. (It's been said that **RAISING A FAMILY** hones vital work skills such as multitasking, leadership, planning, determination, and efficiency. I certainly won't argue with that.)

In the spring of 2002 we moved from the US to the Netherlands. I was ready for a new challenge (one that didn't involve diapers), so I started putting my language skills to use as a translator. I **FOUNDED MY OWN COMPANY** that fall, and I spent the next seventeen years **TRANSLATING AND COPYWRITING** for corporate, government, and private clients. My technical background often came in handy, as did my skill in writing.

Speaking of writing, I also write science fiction and fantasy. Several of my stories have been published (see my personal website if you're interested in reading them).

## WHAT'S NEXT

Translation has been a rewarding career, but after seventeen years I'm ready to **TURN MY FULLTIME FOCUS BACK TO SOFTWARE ENGINEERING**. What are your company's dreams, and how can I help you get there?

1997–99

### PATENTS

#### Billions of Operations Per Second

**US 7,962,667 (2011)** Pechanek, Strube, Barry, Kurak, Busboom, Schneider, Pitsianis, **Morris**, Wolff, Marchand, Rodriguez, Jacobs. **System core for transferring data between an external device and memory.**

**US 6,748,517 (2004)** Pechanek, Strube, Barry, Kurak, Busboom, Schneider, Pitsianis, **Morris**, Wolff, Marchand, Rodriguez, Jacobs. **Constructing database representing manifold array architecture instruction set for use in support tool code creation.**

**US 6,622,234 (2003)** Pechanek, Strube, Wolff, Barry, **Morris**, Busboom, Schneider. **Methods & apparatus for initiating and resynchronizing multi-cycle SIMD instructions.**

**US 6,167,501 (2000)** Barry, Pechanek, Drabenstott, Wolff, Pitsianis, **Morris**. **Methods & apparatus for ManArray PE-PE switch control.**

**US 6,151,668 (2000)** Pechanek, Drabenstott, Revilla, Strube, **Morris**. **Methods & apparatus for efficient synchronous MIMD operations with iVLIW PE-to-PE communication.**

HIRE ME

**DOMAIN** Any, as long as the people are great and the work is a challenge.

**TECH** I've got C & Python; happy to learn new languages and frameworks.

**OFFICE** Adam area / remote + up to 30% travel. I have US & NL passports, making it easy to spend time onsite in America or Europe.

**TIME ZONE** GMT+1. US employers: I'm routinely available through noon Pacific time, and any time of day when it's truly urgent.

2020–...

**PART OF A GREAT TEAM**  
**BUILDING WORLD-CLASS SOFTWARE**  
**TO SOLVE REAL-WORLD CHALLENGES**