

# Roy Chancellor

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## SUMMARY

Systems-minded, highly-organized software developer building upon a foundation in mechanical engineering and mathematics education and 2+ years of experience in Java and C programming. Fueled by a deep desire to solve difficult problems with clean, maintainable code. Thrive in organizations that value technical excellence and provide mentoring.

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## SKILLS

- **Core Java:** Four semesters (16 credit-hours) of core Java object-oriented programming emphasizing back-end database applications, agile, and SDLC
- **C/C++:** Experience writing code to acquire and display data from A/D cards, communicate through RS-232, simulate dynamic systems, and control electronic devices
- **RESTful APIs:** Developed and modified APIs using the MuleSoft integration platform; earned Mule 4 Developer Cert.
- **Web services:** Developed web-based Java banking application with object-oriented class structures and MVC design pattern using Eclipse / Maven, JUnit tests, JavaDocs, CRUD database functions using SQL through JDBC, and hosted in the cloud on AWS Elastic Beanstalk with RDS database
- **Agile:** Created a Java vending machine management system with a lean and fast team using agile scrum by developing user stories, planning sprints, managing backlog, and running daily stand-ups; familiar with SDLC
- **Front-end:** Working knowledge of HTML / CSS to create web pages and vanilla JavaScript DOM manipulation
- **Python:** Basic skills acquired through an online course
- **Courses:** Java Programming I, II, and III, Open Source Computing, C Programming, Introduction to Numerical Methods, Mechatronics (embedded control)
- **Familiar technologies:** Eclipse, Maven, git, GitHub, SQL, JDBC, REST, JAX-RS, AWS cloud (EC2, Elastic Beanstalk, RDS), JUnit, Spring, SDLC, data structures, MuleSoft APIs

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## MECHANICAL AND MANUFACTURING ENGINEERING CAREER

15 years developing and improving products across their entire life cycle (R&D through full-scale production)

### Problem Solving

- Eliminated shock-induced PCB cracking in a rocket controller by designing a unique stiffener that enabled flight qualification on schedule
- Increased machine uptime by >20% by developing a program to send machine-down alerts to operators
- Drove customer complaints for low brightness of automotive EL lamps to zero by applying binary problem solving

### Six Sigma Master Black Belt

- Led a corporate-level team of black belts that completed high-visibility projects across the company netting more than \$1M savings over 3 years
- Solved and prevented numerous quality problems across the product life cycle that led to increased yield and happier customers

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## MATHEMATICS EDUCATION CAREER

11 years classroom teaching and school leadership recognized for extreme organization, strong leadership, and clear communication

- Saved uncountable hours of teacher preparation by creating open-source math curricula spanning Algebra 1 through Calculus 2, including all lesson plans, assessments, and pacing calendars
- Designed the annual master school schedule by solving dozens of logic conflicts and validating with custom VBA code before deployment
- Managed the school web site by creating unique content and organizing operational documents and links that saved teachers time hunting for information in many places
- Mentored math teachers, including one who became a master teacher

## WORK EXPERIENCE

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- 9/2019 – PRESENT                      **ASSOCIATE SOFTWARE DEVELOPMENT ENGINEER**, Hawaiian Airlines, Tempe, AZ
- Create RESTful APIs using MuleSoft to package, transform, and deliver source data to a matrix of internal customers
  - Earned MuleSoft developer certification (Mule 4)
- 7/2015 – 6/2019                      **MASTER TEACHER OF MATHEMATICS**, Great Hearts Academies, Phoenix, AZ
- Designed and delivered highly-interactive mathematics lessons using the Socratic method and high energy
  - Organized and led all internal school operations for an 850-student academy including creating the master schedule of classes that solved myriad conflicts and running state-mandated testing (2015-2017)
  - Developed honors-level math curricula that are turn-key ready for new teachers to adopt and modify
  - Analyzed state testing data to drive instructional improvements in core mathematics and English courses
- (RETURNED TO ARIZONA TO TAKE MASTER MATH TEACHER POSITION)
- 6/2013 – 7/2015                      **MANUFACTURING ENGINEER**, Schweitzer Engineering Laboratories, Pullman, WA
- Synthesized requirements from R&D engineers, process engineers, and manufacturing operations to introduce new circuit boards and product assemblies into production and make significant upgrades to existing products
  - Solved chronic manufacturing problems on legacy and new products by partnering with product mechanical engineers to design, validate, and release permanent solutions
- (SABBATICAL FROM TEACHING TO ENGINEERING POSITION IN WASHINGTON)
- 8/2008 – 5/2013                      **MASTER TEACHER OF MATHEMATICS**, Great Hearts Academies, Phoenix, AZ
- Shaped the honors-level math curriculum during the start-up years of a high-performing charter school
  - Designed and delivered highly-interactive mathematics lessons that incorporated the Socratic method
- 8/2006 – 5/2008                      **MATHEMATICS TEACHER**, Scottsdale Unified School District, Scottsdale, AZ
- Created a highly-practical Business Math course that gave at-risk students valuable real-life math skills
  - Taught Geometry to high school sophomores using interactive PowerPoint lessons
- (CAREER CHANGE TO FULL-TIME MATHEMATICS EDUCATION)
- 12/2005 – 7/2006                      **STATISTICIAN**, Intel Corporation, Chandler, AZ
- Delivered statistical and technical expertise to microprocessor packaging engineers that included designing experiments, making sense out of complex data, and driving problems to resolution before production:
  - Taught multi-week statistical courses to diverse groups engineers, scientists, and technicians with high ratings for clarity, passion, and direct application to students' jobs
- 9/1999 – 12/2005                      **SIX SIGMA MASTER BLACK BELT**, Rogers Corporation, Chandler, AZ
- Led and coached teams that solved yield and defect problems and implemented corrective/preventative action for high performance circuit board, electroluminescent (EL) lamp, and polyurethane foam products
  - Actively drove Six Sigma into the product development cycle to reduce the risk of quality spills before launch
- 8/1998 – 7/1999                      **MECHANICAL ENGINEER**, Orbital Sciences Corporation, Chandler, AZ
- Completed analytical and experimental projects to improve the reliability of electronic packages that control all flight operations of rockets
  - Performed fatigue analysis of all production-tested flight units to ensure remaining life was sufficient for flight
- 5/1994 – 8/1998                      **PROCESS ENGINEER**, W.L. Gore and Associates, Phoenix, AZ
- Characterized and improved processes for high-volume production of micro-coax and micro-ribbon cable products used in ultrasound medical devices and disk drives
  - Created process science that fused mechanical engineering principles with experimental results to kill defects
- 12/1993 – 5/1994                      **TEST PROGRAMMER**, E.F. Data Corporation, Tempe, AZ
- Reduced satellite modem testing time by 50% by writing a suite of C-language programs to automate test functions

## EDUCATION

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### **CERTIFICATE IN JAVA PROGRAMMING (9/2019)**

Grand Canyon University, Phoenix, AZ

- 16-credit hours of core Java language and object-oriented principles emphasizing back-end database applications
- Framework and tools: Eclipse, Maven, JDBC, Hibernate, JPA, SQL, AWS, REST, Spring MVC, Spring Boot, JUnit, HTML, CSS, JavaScript, React, git, GitHub
- Immersed in the full software development life cycle (SDLC) using agile scrum methodology

### **GRADUATE CERTIFICATE IN STATISTICS (5/2004)**

Rochester Institute of Technology, Rochester, NY

- Developed theoretical and practical skills in regression analysis and modeling, time series and forecasting, product reliability, and design of experiments

### **MASTER OF SCIENCE IN MECHANICAL ENGINEERING (12/1993)**

Texas A&M University, College Station, TX

- Thesis: *Parameter Identification Using Nonlinear Dynamics and Chaos* (article published in the ASME Journal of Vibration and Acoustics, July 1996)
- Wrote thousands of lines of C code that simulated dynamic systems, acquired data from electronic devices, processed data using FFT, and graphically displayed data
- Co-created a micro controller-based active-damping system for a 1/4 car suspension by writing embedded C code that implemented PID control

### **BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING (12/1991)**

Arizona State University, Tempe, AZ

- Relevant courses: Introduction to C Programming, Numerical Analysis, Control Systems Analysis