

John Archie

1210 Shaffer Rd Apt 1307
Santa Cruz, CA 95060-5768
+1 831 425 3904 (home)

jarchie@ucsc.edu
<http://www.jarchie.com/>
+1 864 554 3532 (mobile)

- Education:** New College, Oxford University 2004
Subjects: Biochemistry, Ethics
- B.S. Computer Science, Summa Cum Laude, Commonwealth Scholar 2001–2004
Virginia Polytechnic Institute & State University (Virginia Tech)
Blacksburg, VA
Minor: Mathematics, Biology
Overall GPA: 3.8/4.0
- Lander University 1999–2001
Greenwood, SC
Overall GPA: 3.9/4.0
- Computer Skills:** *Operating Systems:* Linux, Unix, MacOS, Windows
Languages: Perl, C++, C, SQL, R
Applications: L^AT_EX, Databases, CGI, HTML, XML, DocBook
Specific Interests: Bioinformatics, Open Source
- Experience:** Research Technician, Office of Epidemiology, Greenwood Genetic Center, Greenwood, South Carolina 2005–2006
- Used parametric quantile regression to determine normal ranges of creatine and creatinine levels in children and non-parametric regression to develop standards for fetal and neonatal autopsy
 - Analyzed splice sites and other sequences with maximum entropy (*J Comput Biol*; 11:377–94) and other statistical and information-theoretic methods
 - Used various mathematical models to analyze real-time PCR data including the standard curve and delta-delta methods as well as single reaction efficiency estimation (*Nucleic Acids Res*; 31:e122)
 - Analyzed microarray data to identify differentially expressed genes between control and knockout mice
 - Solved simple bioinformatics problems with the table-based UCSC genome annotation and the Ensembl Perl API
 - Constructed databases using PostgreSQL and wrote Web-based interfaces under mod_perl and Apache as required
 - Contributed to grant proposals
 - Installed, configured, and used various bioinformatics tools including BLAST, EMBOSS, Genscan, GrailEXP, SIMLINK, and other programs

- Volunteer System Administrator, Division of Humanities, Lander University, Greenwood, South Carolina 1998–Present
- Installed and maintain Windows NT Workstation computers in the Logic Lab
 - Installed and maintain Debian Linux on the Philosophy server
 - Configured Apache Web server, IRC server and Web-based client, mwForum message board, Majordomo mailing list manager, Secure Shell, Exim mail server, and POP3 over SSL
 - Programmed Web-based grade retrieval system
 - Wrote in-house documentation
- Intern, Office of Epidemiology, Greenwood Genetic Center, Greenwood, South Carolina 2004
- Programmed SHAMROC, a set of Perl CGI scripts designed to assess the approximate likelihood a patient has a specific causation of mental retardation given a set of known characteristics via naïve Bayesian inference
 - Used information-theoretic techniques to analyze sequence motifs
- Research Assistant for Dr. Lenwood Heath, Computer Science, College of Engineering, Virginia Tech, Blacksburg, Virginia 2003–2004
- Developed tools to examine the statistical properties of promoter and enhancer motifs and to better understand gene regulation
 - Developed tools to examine the statistical properties of arbitrary DNA sequences and to better understand the structure of DNA
 - Work funded by NSF Grant IOB-0219322
- Research Assistant for Dr. Alexey Onufriev, Computer Science, College of Engineering, Virginia Tech, Blacksburg, Virginia 2003–2004
- Installed, configured, and maintained Linux computer systems
- Consultant, Office of Epidemiology, Greenwood Genetic Center, Greenwood, South Carolina 2001
- Automated linkage analysis for large families with X-linked mental retardation using Perl and FASTLINK
 - Researched subtelomeric chromosome abnormalities
 - Wrote in-house documentation
- Technical Book Reviewer, O'Reilly & Associates, Sebastopol, California 2001
- Reviewed *Network Troubleshooting Tools*, O'Reilly & Associates; ISBN: 059600186X. Published August, 2001.

Volunteer Lab Assistant, Computer Science Networking Lab, Division of Mathematics and Computer Science, Lander University, Greenwood, South Carolina

2000–2001

- Prepared student projects
- Configured routers, hubs, and switches
- Installed Linux, Windows NT, Novell, Solaris, and FreeBSD
- Lab funded by NSF Grant DUE-9980366

- Publications:**
- Archie JG, Collins JS, and Lebel RR. “Quantitative Standards for Fetal and Neonatal Autopsy.” *American Journal of Clinical Pathology* 126(2), 2006, pp. 256–265.
 - Archie JG, Collins JS, and Lebel RR. “Genetic Autopsy Normative Data.” *Proceedings of the Greenwood Genetic Center*, 2006.
 - Vervoort VS, Guzauskas G, Archie J, Schwartz CE, Stevenson RE, and Srivastava AK. “AGTR2 in brain development and function.” *American Journal of Medical Genetics* 140A(5), 2006, pp. 419–420.
 - Lebel R, Archie J, and Collins J. “Genetic Autopsy Normative Data.” *American Society of Human Genetics 55th Annual Meeting: Abstracts*, 2005, p. 140.
 - Sloan JD and Archie J. “Reducing Network Laboratory Costs: Demonstrating Connectivity with Ping Reflectors.” *Proceedings IEEE SoutheastCon 2002*, 2002, pp. 127–130.
 - DuPont BR, Collins JS, Archie JG, and Saul RA. “Subtelomeric chromosome abnormalities in South Carolina.” *American Journal of Human Genetics* 69(S4), 2001, p. 316.
 - DuPont BR, Collins JS, Archie J, and Saul RA. “Subtelomeric chromosome abnormalities in South Carolina.” “Abstracts from the 2001 Southern Genetics Group Summer Meeting” in *Proceedings of the Greenwood Genetic Center*, 2002.
 - Saul RA, Collins JS, Archie J, and DuPont B. “Subtelomeric chromosome abnormalities—what’s ‘hiding’ in South Carolina?” “Abstracts from the 2001 David W. Smith Workshop on Malformations and Morphogenesis” in *Proceedings of the Greenwood Genetic Center*, 2002.
 - Archie J. “The Information Bazaar: Notes from the Underground of Open-Source Software Development.” *New Voices*, 2001, pp. 14–27.
 - Archie J. “Majordomo and MajorCool HOWTO.” *Linux Documentation Project*, <http://en.tldp.org/HOWTO/Majordomo-MajorCool-HOWTO/index.html>, November, 1998; rev. November, 2000.

- Presentations:**
- Archie J. “Computational Analysis of Human Splice Sites.” Greenwood Genetic Center, Greenwood, South Carolina. May 12, 2005.
 - Archie J, Wall T, Collins J. “SHAMROC: Statistical Heuristic Analysis of Mental Retardation Occurrences and Classifications.” Greenwood Genetic Center, Greenwood, South Carolina. August 5, 2004.
 - Costigan J, McLewin K, Archie J, Witsman K, and Harris D. “The Power of Programming.” Women in Computing Day Introductory Programming Workshop, Virginia Tech, Blacksburg, Virginia. April 5, 2003.
 - Sloan JD and Archie J. “Reducing Network Laboratory Costs: Demonstrating Connectivity with Ping Reflectors.” IEEE SoutheastCon 2002, Columbia, South Carolina. April 6, 2002.
- Conferences:**
- “8th Annual Conference on Computational Genomics.” Massachusetts Institute of Technology, Cambridge, Massachusetts. November 9–12, 2005.
 - “Summer Institute in Statistical Genetics.” North Carolina State University, Raleigh, North Carolina. May 23–June 10, 2005. (Modules Attended: Human Population Genetic Data, Structure of the Human Genome, and Coalescent Theory)
- Activities:**
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| Member, Institute of Electrical and Electronics Engineers (IEEE) | 2002–Present |
| Member, Association for Computing Machinery (ACM) | 2000–Present |
- Honors:**
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| Virginia Tech Computer Science Award for Academic Excellence | 2005 |
| The Honor Society of Phi Beta Kappa | 2004–Present |
| The Honor Society of Upsilon Pi Epsilon | 2003–Present |
| The Honor Society of Phi Kappa Phi | 2003–Present |
| Golden Key International Honor Society | 2002–Present |
| The National Society of Collegiate Scholars | 2002–Present |
| Virginia Tech Arts & Sciences/Engineering Dean’s List | 2001–2004 |
| Virginia Tech Honors Program | 2001–2004 |
- Interests:** Mountain Biking and Coffee Roasting